NOTICE TO BIDDERS, SPECIFICATIONS, CONTRACT AND CONTRACT BOND
FOR
HIGHWAY IMPROVEMENT
County of Cook, Illinois

Toni Preckwinkle
Cook County Board President

John Yonan, P.E.
Superintendent
Cook County Department of
Transportation and Highways

Shannon E. Andrews
Chief Procurement Officer

Letting: November 6, 2013 at 10 a.m.

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
Section: 08-W4337-03-PV ROUTE W43

Cook County Procurement Contract No.: 13-88-13051

NOTICE TO PROSPECTIVE BIDDERS

The Specifications can be downloaded at http://198.65.148.209/purchasing/public/index.php (follow online instructions to register, if you have not already). When the plans are not included in the bid document, you must download the Plans (Drawings) at ftp://130.94.31.166/ (user name: highway; password ftpt3st)

Pre-Bid Meeting: Tuesday, October 15, 2013
Cook County Department of Transportation and Highways
69 W. Washington Street, Suite 2260
Chicago, Illinois 60602

APPROVED BY BOARD OF
COOK COUNTY COMMISSIONERS
FEB 19 2014
COM

All questions are due on Friday, October 18, 2013, no later than 3:00pm Chicago time

Send all questions via e-mails to: renee.milton@cookcountyil.gov

Bid Submitted by:

☒ Bid Bond is included ☐ A Cashier's Check or a Certified Check is Included

Name CAPITOL CEMENT COMPANY, INC. Phone No. 773-478-2200

Address 6231 N. PULASKI ROAD

City CHICAGO State IL Zip Code 60646

TONI PRECKWINKLE
PRESIDENT

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

118 N. CLARK STREET
ROOM 1018
CHICAGO, ILLINOIS 60602
TEL: 312-603-5370
FAX: 312-603-3179

ADDENDUM NO. 2

October 24, 2013

CRAWFORD AVENUE TO OAKTON STREET: IMPROVEMENT
For
Cook County Department of Transportation and Highways

Bid Document No. 1388-13051

To: All Bidders of Record

A. General:

This addendum revises bid documents. This addendum is issued to bidder of record prior to execution of contract, and forms a part of contract documents and modifies previously issued documents. Insofar as previously issued contract documents are inconsistent with modifications indicated by this addendum, modifications indicated by this addendum shall govern. Where any part of the contract documents are modified by this addendum, all unaltered provisions shall remain in effect.

B. Bid Form:

Acknowledge receipt of this addendum in space provided on bid form on the proposal pages. Failure to do so will subject bidder to disqualification.

C. Attachments:

The addendum includes attachments described in this addendum. One copy of each attachment is issued with this addendum, unless otherwise indicated. Check receipt of attachments issued with this addendum.

D. Filing:

Insert attachments in respective contract document in correct sequence and location. Revise specification contents to reflect modifications of the addendum, as applicable.

ORIGINATED BY:
Renee Milton
Senior Contract Negotiator

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

E. Addendum Direction and Description

1. Response to Vendor Questions submitted by 3:00 PM on October 18, 2013.

2. Please replace General Notes Sheet 08-W4337-03-PV_10-30-13_Sheet G-1 of 182 with 08-W4337-03-PV_10-30-13_Sheet G-1R of 182 – notes were revised and additional notes were added for clarity.

3. Please replace Summary of Quantities 08-W4337-03-PV_10-30-13_Sheet G-2 of 182 to 08-W4337-03-PV_10-30-13_Sheet G-2R of 182 and 08-W4337-03-PV_10-30-13_Sheet G-3 of 182 to 08-W4337-03-PV_10-30-13_Sheet G-3R of 182 – The column table headings were corrected and these pay items were adjusted:

Item No.	Pay Item	Unit	Total Quantities
55	AGGREGATE (PRIME COAT)	TON	20
62	BITUMINOUS MATERIALS (PRIME COAT)	GAL.	880
65	LEVELING BINDER (MACHINE METHOD) IL-9.5, N50	TON	740
71	PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN.	SQ.FT.	8650

- Pay Item #55 increased to 20 ton from 3 ton
- Pay Item #62 increased to 880 gallons from 110 gallons
- Pay Item #65 increased to 740 ton from 90 ton
- Pay Item #71 changed units Sq. Yd. to Sq. Ft.

4. Please replace 08-W4337-03-PV_10-30-13_SheetDU-8 of182 with 08-W4337-03-PV_10-30-13_SheetDU-8Rof182 – Manhole moved from Sta. 1043+10 to Sta. 1043+14 to avoid conflict with an AT&T duct.

5. **Bidding Contract Documents Book:**

1. The blank pages, 407 & 409 are extraneous and are to be ignored and deleted.

2. Replace page 361, Special Provision for Portland Cement Concrete Sidewalk, High-Early-Strength, 8 In.; with page 361R. The basis of payment square yard should be replaced with square feet.

3. Insert Page 628A, Special Provision for Temporary Pavement as part of Special Provision 422 Village of Lincolnwood – SP for Water Main Installation

4. Replace pages 210 and 211 with pages 210R and 211R, Special Provision for Scheduling and Landscaping. An additional note was added.

Replace page 716 with 716R. This reflects the following changes in the Summary of Prices:

Item No.	Pay Item	Unit	Total Quantities
55	AGGREGATE (PRIME COAT)	TON	20
62	BITUMINOUS MATERIALS (PRIME COAT)	GAL.	880
65	LEVELING BINDER (MACHINE METHOD) IL-9.5, N50	TON	740
71	PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN.	SQ.FT.	8650

- Pay Item #55 increased to 20 ton from 3 ton
- Pay Item #62 increased to 880 gallons from 110 gallons
- Pay Item #65 increased to 740 ton from 90 ton
- Pay Item #71 changed units Sq. Yd. to Sq. Ft.

Replace page 722 with 722R. This adds the unit cost of $2,500 to pay item No. 215, Electrical Utility Service Connection.

A spreadsheet and new Schedule of Prices reflecting these changes is also attached.

5. Replace **REVISED Page 1 Cover Sheet (1R)** with original cover sheet – Removed "Bidders Must Return the Entire Bid". For a complete list of documents to submit, please see response to question #4 in the "Response to Vendor Questions" document. **NEW LETTING DATE NOVEMBER 6, 2013**, all other conditions remain the same.

6. Page 14R of MBE/WBE Economic Disclosure Statement (Requires Familial Relationship documents to be submitted Jan. 1st and with each bid.)

Item 1

Crawford Avenue Bid Document 1388-13051
Response to Vendor Questions

1. After reviewing the contract documents for the above mentioned project, I find no requirement for the tie bars in the PCC pavement to be epoxy coated. Is it your intent that the tie bars are to be plain (black) steel? Answer: Corrected in Addendum. Please refer to Sheet G-1R General Note No. 34 -The tie bar needs to be epoxy coated as per general note.

2. What is the amount we should enter for pay item 215...Electric Utility Service Connect? Answer: This item is found in Special Provision 421 Village of Lincolnwood – Lighting Spec Bid Set. The contractor should review utility service installation connection and for bidding purposes use $2,500 as stated in the special provision.

3. I am looking at the Schedule of Prices for this project. Item 70 and Item 71 both are sidewalks but the units are sq. ft. and sq. yd. respectively. Please confirm that the units are written right. I need the answer asap. Answer: Corrected in Addendum. See Sheet G-2R Summary of Quantities. Sidewalk should be in sq. ft. The quantity has not changed.

4. I just want to confirm what it says on the front of the spec book....
"**Bidders must return the entire bid**" this means all 727 pages of the book?

   Answer–
   Page 1 – Cover Sheet revised to reflect taking out "Bidders Must Return Entire Bid"
   Page 17 through 19 – Information for Bidders outlines what needs to be returned with the bid document
   Page 33 – Special provision for Alternate Proposal
   Page 34 – Special Provision for Responsible Bidder Requirement
   Pages 57 through 62 – Special Provision for Joint Ventures and Forms
   Page 63 – Special Provision for Addendum Receipt
   Page 210 and 211 – Special Provision for Scheduling and Landscaping
   Pages 684 through 705 – Economic Disclosure Statement
   Page 706 - Surety's Statement of Qualification of Bonding
   Page 707 – Trust Agreement
   Page 710 – Performance and Payment Bond
   Page 711 – Contract
   Page 714 through 725 - Schedule of Prices
   Page 726 – Proposal Bid Bond
   Page 727 – Bid Deposit Form

5. Please give me a little bit of what this project will consist of. Is there a new highway going up, or just improvements. Answer: Please refer to Sheet G-1R General Note No. 1.

6. I have a question regarding the WBE/MBE requirements on the Crawford Ave project. We are a women owned company certified as a DBE by IDOT. Does our certification make us eligible to count towards the WBE/MBE goals on this project? Answer: A DBE Certification does not qualify a vendor for W/MBE certification. Cook County will only accept CURRENT certifications for M/WBE from the City of Chicago and/or Cook County.

7. IS THERE A PROJECT LABOR AGREEMENT IN THE ABOVE MENTIONED PROJECT? Answer: No. Currently, CCDOT&H does not have a Project Labor Agreement for the construction projects we competitively bid.

8. What percent, if any, of the total contract amount is the General Contractor required to perform? Answer: 51% per ordinance.

9. Who handles the temporary control at the Railroad crossing (After crossing gate removal)? Answer: Please refer to sheets CTA-TC-C001 to CTA-TC-C011 in the design plans and special provisions 411 Crawford Grade Crossing (CTA) and 412 CTA Crawford Crossing Specs for specific direction on railroad coordination and requirements.

10. Can work on the contract be started over the winter? Answer: Corrected in Addendum. See Special Provision 71R Scheduling and Landscaping. Once the contract is awarded and the notice to proceed is provided by the Department, the contractor can start. No permanent lane closures or staging will be allowed along Crawford Avenue until April 1, 2014 without the approval of the Resident Engineer. Lane closures on roadways under IDOT jurisdiction, including Devon Avenue, Lincoln Avenue, Touhy Avenue, and Howard Street-east-of-Crawford Avenue will not be allowed before April 15, 2014.

11. Is there a start date for this contract? Answer: There is no start date provided in the contract. See Special Provision 71R Scheduling and Landscaping. As stated in question 10, no permanent lane closures or staging will be allowed until April 1, 2014 without the approval of the Resident Engineer. IDOT will not allow lane closures before April 15, 2014. See Notice to Proceed.

12. Will any of the contract pay items regarding landscaping, striping, water main work, non-special waste disposal, electrical work be considered "Specialty Items" and designated as such in the "Schedule of Quantities"? Answer: The Department does not identify "specialty items".

13. We respectfully request that C.C.H.D. waives the requirement of the Pollution Liability Insurance for this project as stated in the contract on page 51 Section E. Answer: – County will not waive Pollution Insurance requirement.

14. There is no indication of Specialty Items on pages G-2; G-3. IDOT considers most of the landscaping, electric and striping items as such. Any possibility that C.C.H.D. could do the same? This would help meet the 51% requirement of work to be performed by the General Contractor. Answer: See response to question 12.

15. Status of Utility to be relocated? Utilities should be relocated by 3-31-2014 if possible. Answer: Please see Special Provision 185 Cooperation with Utilities, 185a Status of Utilities to be Adjusted and Article 105.07 Cooperation with Utilities in the IDOT Standard Specifications. A utility coordination meeting was held on July 24, 2013. The utilities are aware of the project and are currently in various stages of investigating and relocating their facilities as required for the project.

16. Can we crush the existing concrete to make PGE and CA-6 to be used later? Answer: Please refer to Section 106 of the IDOT Standard Specifications. The contractor may crush existing concrete to be used later following IDOT procedures, proper testing at the Contractor's expense, providing proof of materials, any other requirements and obtaining the approval from CCDOTH. Approval is not inherent in the response.

17. Is there a C-Bid for this project? Answer: CCDOTH does not provide this service.

18. Can we grind the existing asphalt to be used later in the project as aggregate base course or trench backfill? Answer: Please refer to Section 106 of the IDOT Standard Specifications. The contractor may use existing asphalt to be used as aggregate base later following IDOT procedures, proper testing at the Contractor's expense, providing proof of materials, any other requirements and obtaining the approval from CCDOTH. Approval is not inherent in the response.

19. Pay item #186, Disposal of Non-Special Waste (16,810cy); Does this include excavation or just the additional hauling & disposal? Answer: Please refer to the Special Provision 33c Removal and Disposal of Regulated Substances page 193. Revise the second paragraph of Article 669.16 of the Standard Specifications to read: "The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL."

20. Are there any soil borings available Answer: Please refer to the ftp site and Soil Boring Data.

21. How thick is the existing asphalt, concrete base, and aggregate base? Answer: Please refer to special provision 405 Pavement Investigation.

22. How much slag is in the existing asphalt? Answer: CCDOTH did not test for slag content.

23. Spec calls for the utility relocations to be complete by March of 2014, will the general contractor be penalized if it is not completed by the date? Answer: Please refer to the Special Provision 185 Cooperation with Utilities and Article 105.07 in the current Standard Specifications for the Road and Bridge Construction.

24. Are there specific plans and profiles for the CTA work? Answer: For work at the CTA grade crossing, please refer to sheets CTA-TC-C001 to CTA-TC-C011 in the design plans and special provisions 411 Crawford Grade Crossing (CTA) and 412 CTA Crawford Crossing Specs.

25. What is being installed in the CTA portion? Answer: For work at the CTA grade crossing, please refer to sheets CTA-TC-C001 to CTA-TC-C011 in the design plans and special provisions 411 Crawford Grade Crossing (CTA) and 412 CTA Crawford Crossing Specs.

26. Do we need flaggers for the CTA portion? Answer: CTA flaggers are required at the railroad grade crossing in accordance with special provisions 411 Crawford Grade Crossing (CTA) and 412 CTA Crawford Crossing Specs.

27. What permits or fees are required for this job? Answer: As stated in Article 107.04 Permits and Licenses in the IDOT Standard Specifications, it is the contractor's responsibility to obtain all permits and pay fees that are required to construct the improvement. The Department will provide contractor IEPA permit for the water main, MWRD sewer permit, CCDD certification (see Special Provision 33 Clean Construction and Demolition Debris) after award.

28. What is the bedding for the storm sewer? The detail calls for the amount of bedding but not the material. Answer: Refer to Sheet DU-12. Bedding material for the storm sewer is FA-6 per Bedding Detail note "FA-6 shall be deposited to a depth of springline of pipe and then water jetted through holes on each side of the pipe. The jetting tube shall extend to a depth of at least half the distance between the spring line and the bottom of the pipe and shall be spaced as directed by the engineer but no farther than six feet apart."

29. Do the storm manholes require chimney seals and boots? Answer: Refer to sheet DU-2 – Drainage and Utilities General Notes #14 "SEWER CONNECTIONS TO MANHOLES, CATCH BASINS, AND INLETS ARE TO BE INSTALLED WITH CORING AND PLACEMENT OF RUBBER BOOTS PER CCHD STANDARD D-60 FOR CORE AND BOOT CONNECTIONS UNLESS OTHERWISE NOTED ON PLANS." Storm manholes do not require chimney seals. All connections to storm manholes should be cored and booted.

30. What will the special waste ground water disposal consist of? Answer: See Special Provision 33c Removal and Disposal of Regulated Substances p.190-195

31. where can we dispose of this water? Answer: as stated in the Special Provision 33c Removal and Disposal of Regulated Substances p.190-195 "The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer."

32. What, if any, are the local employment requirements? (such as Chicago/Skokie residents working for the contractor) Answer - No

33. Who/what is considered local? Answer – N/A

34. How many locals must be working? Answer – N/A

35. Page 221 says no compensation to contractor for known/unknown utilities that needs to be moved or is being moved. Shouldn't we get paid for things out of the contractor's control? Answer: Please refer to the Special Provision 185 Cooperation with Utilities and Article 105.07 in the current Standard Specifications for the Road and Bridge Construction.

36. Are the thrust blocks to be poured in place or will C.M.U suffice? Answer: The Village will accept either fully restrained MJ joint connections at all bends or poured in placed concrete thrust blocks at all bends. The Village will not accept CMU.

37. The spec does not reference the amount of work to be done by the general contractor; what is this percentage?
    Answer– 51%
38. If joint ventured with an MBE, can we use both companies to meet the 51% of the work goal as well as the 24% of MBE status? Answer– A joint venture between an MBE and a Non MBE can fulfill the MBE requirement for this contract as long as the participation of the MBE is to perform a commercial useful function to which they are currently certified to perform and in the capacity for which they are seeking MBE participation credit.

39. Or is it one or the other?
    Compliance Answer - As we understand the question correctly, these requirements are not mutually exclusive- they both can be met by a joint venture.

40. The 4' Dia. Catch basins designed for the curb line on the east and west side of Crawford Ave., there is an existing water main near or under the existing curb line. What is the plan if the structures are in conflict either horizontally or vertically with the proposed structures? Answer: Conflicts will be addressed on a case-by-case basis with the Resident Engineer.

41. Per the details, the bedding material for the proposed storm sewer is FA-6, can CA-11 be substituted so the jetting requirement can be waived in lieu of the washed gravel? And can CA-11 be used for Trench Backfill and not be jetted or compacted? Answer: Refer to sheet DU-16 for MWRD Sanitary Sewer Trench Detail. Refer to sheet DU-12 for Storm sewer Bedding Detail "FA-6 shall be deposited to a depth of springline of pipe and then water jetted through holes on each side of the pipe. The jetting tube shall extend to a depth of at least half the distance between the spring line and the bottom of the pipe and shall be spaced as directed by the engineer but no farther than six feet apart." CA-11 is only allowed for sanitary sewers. Bedding material for storm sewers must be FA-6 using installation methods per IDOT standard specifications.

42. Also saw a note where the existing excavated spoils are going to be monitored by the engineering staff on the project. Are we to bid under the assumption that all excess spoil to be hauled off the site will be acceptable at at CCDD landfill? Answer: Please refer to Special Provision 33 Clean Construction and Demolition Debris and Special Provision 33c Removal and Disposal of Regulated Materials. The Certification is included for clean material.

43. On Note #1 on sheet DU-4 it states: " Lateral connections to storm sewers 24" and greater and all connections to drainage structures shall be core and seal connections meeting ASTM 923", but note #1 on Sheet DU-5 states " The same as DU-4 ,however it goes on to state: lateral connections crossing water mains where sections of main drain shall have precast tee's" My question is when the pipe is ordered with the tee's precast into the barrel of the pipe, it will be too late to make a field change if the conditions in the field warrant. These have to be built and

shipped when the pipe is delivered from the manufacturer. Answer: Refer to sheet DU-14. If field changes are warranted and approved by the Resident Engineer, core and boot method can be used for lateral connection to pipes larger than 24" diameter. All lateral connections to 24" diameter pipe and less must use precast wye or tee.

44. Page 213 of the specifications - Basis of payment for temp by-pass pavement – the last portion of the payment description lists several items: per ton for leveling binder (machine method); per gallon for bituminous materials (prime coat) and per ton for aggregate (prime coat) – please explain. Are these items incidental to the Temp By-Pass Pavement or will they be measured and paid for separately? Answer: As per Special Provision 80 Temporary By-Pass Pavement, these items are included in the contract and will be paid for separately.

45. Pay Item-71 PCC Sidewalk, High Early Strength, 8 in. The unit of measure specified is Square Yards. Is this correct? Normally sidewalks are paid for by the Square Foot. Answer: Corrected in Addendum. See Sheet G-2R Summary of Quantities. Sidewalk should be in sq. ft. The quantity has not changed.

46. What is the difference between Pay Item-66 B-Pass Pavement and Pay Item-192 Temporary Pavement? Answer: Corrected in Addendum. Please refer to Special Provision 80 Temporary By-Pass Pavement and Special Provision 422 Village of Lincolnwood – SP for Water Main Installation page 628.5.

47. Please provide specifications for Pay Item 192 Temporary Pavement. Answer: Corrected in Addendum. Please refer to Special Provision 422 – Village of Lincolnwood – SP for Water Main Installation page 628.5

48. Will the Contractor be reimbursed for CTA Flagger cost or are those costs incidental to the contract? Answer: Corrected in Addendum. Please refer to sheet G-1R General Note No. 33.

49. Once the Stage 3 work is completed, can the traffic control equipment be removed from the project over the 2014-2015 winter? Answer: Please refer to Special Provision 71 Scheduling and Landscaping and the Sheets MOT-1 to MOT-20 in the plan sheets. With the approval of the Resident Engineer, once all construction activities in the roadway is completed for the season and all lanes are open to traffic, changeable message signs and signage related to staging activities may be removed.

50. Can the side streets along Crawford Ave. be closed? Answer: See MOT Note #15 and Special Provision 71 Scheduling and Landscaping.

51. On page 307, it states the Contractor is required to obtain, from the Railroad, a Right-of Entry Agreement with the Railroad. However the cost and contact information is blank. What is the cost and contact information? Please contact the CTA directly for the most up to date information. The Contact person for The Right of Entry documents is

    Ms. Teresa Rogers
    Real Estate Services
    P.O. Box 7568
    Chicago, IL. 60680-7568

312-681-3649
TCRogers@transitchicago.com
Right of Entry document fee $100

Right-of-Entry (ROE) fee $1,000
Total Fees $1100.00

52. "Does the form "Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements" on page 701 need to be turned in with the bid for each MBE/WBE Subcontractor submitted with the MBE/WBE Utilization Plan?
Answer: The entire completed Economic Disclosure Statement must be submitted with the bid.

53. Regarding pay item 186 – Non-Special Waste Disposal and special provision "Removal and Disposal of Regulated Substances". We interpret that pay item 186 is only for the transportation and disposal of the contaminated soil and that pay item 3 – Earth Excavation would be utilized to pay for the actual excavation of the non-special waste. Please confirm that both pay items 3 and 186 would be utilized to pay for the actual quantity of non-special waste excavated and disposed of. Answer: Please refer to the Special Provision 33c Removal and Disposal of Regulated Substances page 193. *Revise the second paragraph of Article 669.16 of the Standard Specifications to read: "The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL."*

54. Are the Trench backfill quantities on the pipe removal going to be measured in place, or are the plan quantities going to govern? Answer: Please refer to Section 208, Section 550 and Section 551 of the IDOT Standard Specifications for Road and Bridge Construction Manual.

55. How is the trench backfill for the structures to be removed going to be paid for? Answer: Please refer to Section 208 and Section 605 of the IDOT Standard Specifications for Road and Bridge Construction Manual.

COUNTY HIGHWAY	FISCAL YEAR	SHEET NUMBER	TOTAL SHEETS
942	2013	G-1R	

SECTION: [illegible]

GENERAL NOTES

1. THIS IS A QUALITY CONTROL/QUALITY ASSURANCE PROJECT.

   IT IS THE INTENT OF THIS CONTRACT TO PROVIDE FOR THE RECONSTRUCTION OF CRAWFORD AVENUE FROM DEVON AVENUE TO OAKTON STREET. CRAWFORD AVENUE WILL BE RECONSTRUCTED TO FOUR (4) ELEVEN FOOT TRAVEL LANES, COMBINATION CONCRETE CURB AND GUTTER AND RECONSTRUCTION OF THE PHYSICAL MEDIAN WHERE ONE CURRENTLY EXISTS. THE MEDIAN WILL BE REDUCED TO A WIDTH OF THIRTEEN (13) FEET FROM EDGE-OF-PAVEMENT TO EDGE-OF-PAVEMENT. THE EXISTING COMPOSITE PAVEMENT OF CRAWFORD AVENUE SHALL BE COMPLETELY REMOVED AND THEN RECONSTRUCTED WITH P. C. CONCRETE PAVEMENT (10 INCH) ALONG WITH A 12 INCH AGGREGATE SUBGRADE. ALSO INCLUDED IS THE REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE STRUCTURES, MAIN STORM SEWER INSTALLATION WITH SEPARATION OF THE EXISTING COMBINED SEWER, WHERE APPLICABLE, TRAFFIC SIGNAL WORK AT THE INTERSECTIONS OF CRAWFORD WITH DEVON AVENUE, LINCOLN AVENUE AND PRATT AVENUE, TEMPORARY TRAFFIC SIGNALS IN ORDER TO ACCOMMODATE CONSTRUCTION STAGING, RAILROAD CROSSING GATE RELOCATION AT THE CTA RAIL CROSSING, WATERMAIN INSTALLATION, RECONSTRUCTION OF SIDE STREETS TO THE CURB RETURN, PAVEMENT MARKINGS, SIGNING, PARKWAY AND MEDIAN LANDSCAPING WITH TOPSOIL, SODDING AND TREE PLANTING, DETOUR ROUTING, STREET LIGHT INSTALLATION, INSTALLATION OF ADA SIDEWALK RAMPS AND WARNING DEVICES, TRAFFIC PROTECTION AND ALL OTHER WORK AS REQUIRED TO COMPLETE THE IMPROVEMENT.

2. STANDARD SPECIFICATIONS REFER TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2012 AND ALL ADDENDA AND SUPPLEMENTAL SPECIFICATIONS.

3. WHEN ORDERED BY THE ENGINEER, THE CONTRACTOR SHALL USE THE FOLLOWING METHOD TO ALLAY DUST AND PREVENT A NUISANCE WITHIN THE LIMITS OF THE CONSTRUCTION SITE. DUST SHALL BE CONTROLLED BY THE UNIFORM APPLICATION OF SPRINKLED WATER AND SHALL BE APPLIED ONLY WHEN DIRECTED BY THE ENGINEER, IN A MANNER MEETING HIS APPROVAL. CALCIUM CHLORIDE SHALL NOT BE USED FOR THIS PURPOSE. ALL EQUIPMENT USED FOR THIS WORK SHALL MEET WITH THE ENGINEER'S APPROVAL. THIS WORK SHALL CONSIST OF THE EXCLUSIVE CONTROL OF DUST RESULTING FROM CONSTRUCTION OPERATIONS AND IS NOT INTENDED FOR USE IN THE COMPACTION OF EARTH EMBANKMENTS, AS SPECIFIED UNDER ARTICLE 205.06 OF THE STANDARD SPECIFICATIONS. NO EXTRA COMPENSATION SHALL BE ALLOWED THE CONTRACTOR FOR THIS WORK.

4. ALL SIDEWALK THROUGH DRIVEWAYS WILL BE PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH. (8 IN.). THE REMAINING PROPOSED SIDEWALK WILL BE PORTLAND CEMENT CONRETE SIDEWALK (5 IN.) UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER.

5. THE CONTRACTOR MEANS AND METHODS WILL NOT SUSPEND CTA SERVICE DURING THE PROPOSED CONSTRUCTION.

   THE CONTRACTOR MUST NOTIFY AND COORDINATE WITH THE CHICAGO TRANSIT AUTHORITY (CTA) WITHIN 30 DAYS PRIOR TO THE PERFORMANCE OF ANY WORK PERFORMED WITHIN 50 FEET OF THE CTA RIGHT-OFWAY. THE CTA'S REPRESENTATIVE FOR ALL OUTSIDE WORK WILL BE MR. RICHARD HERNDOBLER, CONSTRUCTION OVERSIGHT MANAGER AT 312-681-3921 (RHERNDOBLER@TRANSITCHICAGO.COM). FURTHERMORE, CTA SIGNAL PERSONNEL MUST BE PRESENT FOR OR PREFORM ALL WIRING MODIFICATIONS AND CONNECTIONS TO SIGNAL AND CROSSING EQUIPMENT.

   ALL CONTRACTOR /SUBCONTRACTOR/CONSULTANT PERSONNEL ASSIGNED TO WORK ON, UNDER ABOVE, OR ADJACENT TO THE CTA RIGHT-OF-WAY AND INSIDE RAIL MAINTENANCE FACILITIES ADJACENT TO SIX-HUNDRED (600 VDC, ARE REQUIRED TO SUCCESSFULLY COMPLETE A ONE-DAY (8-HOUR) RAIL SAFETY TRAINING COURSE ADMINISTERED BY CTA IN ORDER TO QUALIFY FOR A RAIL RIGHT-OF-WAY SAFETY CARD. THE COURSE IDENTIFIES THE DANGERS THAT EXIST ON THE RAIL SYSTEM, INCLUDING MOVING TRAINS AND THE 600-VOLT DC TRACTION POWER DISTRIBUTION SYSTEM. PLEASE CONTACT SARAH VILLASENOR AT 312-681-3811 (SVILLASENOR@TRANSITCHICAGO.COM) TO REGISTER FOR CLASS AT LEAST TWO (2) WEEKS IN ADVANCE. THE "RAIL SAFETY TRAINING FEE" WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED FOR PAYMENT IN THE PAVING ACTIVITIES INVOLVED.

6. CTA RIGHT-OF-WAY CAN NOT BE USED FOR STAGING OR VEHICLE PARKING. CTA FACILITIES WITHIN THE FENCED AREA MAY NOT BE DISTURBED.

7. LANDSCAPE MEDIAN REQUIREMENTS SOUTH OF JARVIS AVENUE SHALL BE AS PER DETAIL SHEETS PREPARED BY THE VILLAGE OF LINCOLNWOOD. ALL LANDSCAPE MEDIAN NORTH OF JARVIS AVENUE SHALL BE AS PER DETAIL SHEETS PREPARED BY THE DETAIL PROVIDED BY THE VILLAGE OF SKOKIE.

8. WHEN THE PROPOSED P.C. CONCRETE PAVEMENT ABUTS EXISTING P.C. CONCRETE PAVEMENT, AN APPROVED #5 TYPE ANCHOR BAR @ 2'-6" CNTRS. SHALL BE USED. THE COST OF FURNISHING AND INSTALLING THESE ANCHOR BARS SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE PER SQ. YD. FOR P.C. CONCRETE PAVEMENT (10 IN.). IN ADDITION, WHEN THE PROPOSED PAVEMENT BECOMES 5 FEET OR LESS IN WIDTH, THE 10 IN. P.C.C. PAVEMENT AND PROPOSED CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY WITH THE WORK BEING PAID FOR AS P.C. CONCRETE PAVEMENT, P.C. CONCRETE BASE AND COMBINATION CONCRETE CURB AND GUTTER AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR.

9. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND MAINTAIN ACCESS FOR ALL PRIVATE PROPERTY DURING THE CONSTRUCTION PERIOD. THIS WORK SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR CRUSHED STONE (TEMPORARY USE). IT HAS BEEN ESTIMATED THAT 9,000 TONS OF CRUSHED STONE (TEMPORARY USE) WILL BE NEEDED FOR THIS IMPROVEMENT. THIS ESTIMATED QUANTITY IS GIVEN FOR THE BIDDER'S INFORMATION ONLY AND THE COUNTY TAKES NO RESPONSIBILITY FOR ITS ACCURACY. THE APPLICATION SHALL CONFORM TO SPECIAL PROVISION FOR CRUSHED STONE (TEMPORARY USE).

10. REPLACEMENT OF ONE LANE OR FULL WIDTH PAVEMENT SHALL BE IN ACCORDANCE WITH ARTICLE 420 OF THE STANDARD SPECIFICATIONS, PAYMENT FOR THE REPLACEMENT OF THE EXISTING CONCRETE PAVEMENT AS DESCRIBED ABOVE WILL BE AT THE CONTRACT UNIT BID PRICES PER SQ. YD. OF P.C. CONCRETE PAVEMENT (10 IN).

11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE THE ROAD CLEAN OF DIRT, GRAVEL, OIL, ETC. ON THE DAY OF PAVEMENT MARKING.

12. THE CONTRACTOR WILL COORDINATE WITH THE RESIDENT ENGINEER AND MUNICIPALITIES TO MAKE PROVISIONS FOR SPEICAL NEEDS RESIDENTS WHEN DRIVEWAY ACCESS IS NOT AVAILABLE DURING CONSTRUCTION.

13. EXISTING SIDEWALK SHALL BE REMOVED AND REPLACED 5 FT. BEYOND EXISTING KEYSTONE CORNERS, AND AS SHOWN AT OTHER LOCATIONS.

14. ALL FENCES WITHIN THE LIMITS OF R.O.W. AND NOT CALLED FOR REMOVAL SHALL BE REMOVED, IF NECESSARY, AND PLACED ON THE ADJACENT PROPERTY BY THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED AS INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE BID PER CU. YD. FOR EARTH EXCAVATION.

15. THE CHAIN LINK FENCE ADJACENT TO THE CTA R.O.W. THAT IS REMOVED SHALL BE REPLACED AT THE DIRECTION OF THE CTA AND THE RESIDENT ENGINEER. THIS ITEM WILL BE PAID FOR AT THE UNIT BID PRICE PER LIN. FT. OF CHAIN LINK FENCE REMOVAL AND CHAIN LINK FENCE, 6 FT. FURTHERMORE, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING WHERE EXISTING CTA FENCING IS REMOVED FOR CONSTRUCTION. THIS SHALL BE CONSIDERED AS INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT BID PRICE PER LIN. FT. OF CHAN LINK FENCE, 6 FT.

16. FULL DEPTH SAW CUTS FOR ASPHALT DRIVEWAY REMOVAL SHALL BE AT THE R.O.W. OR AT THE CONSTRUCTION LIMIT SHOWN ON THE PLANS. SAW CUTS FOR ASPHALT DRIVEWAY REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE PER CU. YD. FOR EARTH EXCAVATION.

17. CARE SHALL BE TAKEN TO PROVIDE FOR A STRAIGHT EDGE BUTT WHERE PROPOSED PAVEMNT MEETS EXISTING ASPHALT PAVEMENT. THIS CUTTING SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE PER LIN. FT. OF CUTTING HOT-MIX ASPHALT SURFACE (FULL DEPTH).

18. PRIOR TO CONSTRUCTION OF THE SIDEWALK THE INVOLVED MUNICIPALITY WILL BE REQUIRED TO OBTAIN A SIDEWALK PERMIT FROM THE COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAY PERMITS DIVISION. (312.)443-3936. SAID PERMIT WILL DICTATE THE RESPONSIBILITY OF THE MUNICIPALITY WITH REGARD TO THE JURISDICTION, CONTROL AND MAINTENANCE OF THE SIDEWALK.

19. SHOULDERS AND SIDESLOPES SHALL BE ROUNDED 1'0" IN EACH DIRECTION FROM THE TANGENT INTERSECTION OF THE THESE SURFACES.

21. WHERE MEDIAN IS OMITTED AT MINOR INTERSECTING STREETS AND UNLESS OTHERWISE NOTED ON PLANS, THE PAVEMENT SLOPE FROM THE GRADE LINES TO THE CENTERLINE OF CONSTRUCTION SHALL BE 0.01 FT/FT.

22. STAGING PLANS INCLUDED HEREIN ARE INTENDED AS A SUGGESTED METHOD OF TRAFFIC CONTROL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL TRAFFIC CONTROL NECESSARY TO COMPLETE THE PROJECT CONSTRUCTION PER THE CONTRACT PLANS AND DOCUMENTS, INCLUDING ANY NECESSARY SUB-STAGES TO FURTHER THE PROGRESS OF CONSTRUCTION IN CONJUCTION WITH PENDING UTILITY RELOCATIONS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY ADDITIONAL OR CHANGES REQUIRED COMPLETING THE PROJECT.

23. TRAFFIC CONTROL AND PROTECTION, IN ADDITION TO THAT SHOWN ON THE TRAFFIC CONTROL DRAWINGS, MAY BE REQUIRED FOR MISCELLANEOUS OPERATIONS DURING STAGED CONSTRUCTION AND AFTER THE ROAD(S) ARE OPEN TO TRAFFIC. IN THIS EVENT TRAFFIC CONTROL AND PROTECTION SHALL CONFORM TO THE APPROPRIATE IDOT AND/OR MUTCD STANDARDS AND PRACTICE. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY ADDITIONAL TRAFFIC CONTROL AND PROTECTION REQUIRED.

24. THE EXISTING PAVEMENT IS A COMPOSITE PAVEMENT CONSISTING OF PCC BASE WITH A BITUMINOUS OVERLAY. THE BITUMINOUS OVERLAY COMPONENT OF THE COMPOSITE PAVEMENT SHALL NOT BE MEASURED AND PAID SEPERATELY. THE BITUMINOUS OVERLAY WILL BE INCLUDED AT THE CONTRACT UNIT BID PRICE PER SQ. YD. FOR PAVEMENT REMOVAL.

25. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM AVAILABLE SURVEY AND UTILITY PLANS. THE LOCATIONS OF THE OF THE UNDERGROUND FACILITIES AS SHOWN SHALL BE CONSIDERED APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING UTILITIES. NO EXTRA COMPENSATION WILL BE ALLOWED FOR DELAYS ARISING FROM ANY WORK PERFORMED BY THE UTILITY COMPANIES.

26. THE CONTRACTOR SHALL PROVIDE THE RESIDENT ENGINEER AND THE MUNICIPALITIES AT LEAST FOURTEEN (14) DAYS' ADVANCE NOTICE FOR ACCESS CLOSURES INVOLVING ANY RESIDENTIAL DRIVEWAYS, SIDE STREETS AND SCHOOL ENTRANCES.

27. THE CONTRACTOR WILL COORDINATE WITH THE RESIDENT ENGINEER AND MUNICIPALITIES TO REDUCE IMPACT TO MAJOR HOLIDAYS, SPECIAL EVENTS AND OBSERVING THE LOCAL NOISE ORDINANCES.

28. TO ACHIEVE PROJECT MILESTONES, THE CONTRACTOR WILL BE ALLOWED TO USE PORTLAND CEMENT CONCRETE PAVEMENT, HIGH-EARLY-STRENGTH, 10 IN.; HOWEVER, THE CONTRACTOR WILL BE PAID AT THE PORTLAND CEMENT CONCRETE PAVEMENT, 10 IN. CONTRACT UNIT PRICE AND NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR ITS USE ON THE PROJECT.

29. AT THE OPTION OF THE CONTRACTOR, THE CONTRACTOR WILL BE ALLOWED TO USE COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 AND B-6.18 THAT WILL REACH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI BY THE THIRD DAY; HOWEVER, THE CONTRACTOR WILL BE PAID AT THE COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 AND B-6.18 AT THE CONTRACT UNIT PRICE RESPECTIVELY AND NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR BOTH PAY ITEMS ON THE PROJECT.

30. THE RESIDENT ENGINEER IS DIRECTED TO REVIEW HAA AGREEMENTS, 33A IEPA 663 FORMS SEALED (IDOT) AND 33B IEPA 663 FORMS (CCDOTH) FOR POTENTIAL CONTAMINATED SOIL THROUGHOUT THE PROJECT IMPROVEMENT.

31. IF THE CONTRACTOR ENCOUNTERS PAVEMENT FOAM INSULATION NEAR TOUHY AVENUE, THE REMOVAL AT THE DIRECTION OF THE RESIDENT ENGINEER SHALL BE CONSIDERED AS PART OF THE EARTH EXCAVATION AND NO EXTRA COMPENSATION WILL BE CONSIDERED.

32. THE REMOVAL AND PROPOSED SIDEWALK IN THE PLANS ONLY REFLECT SIDEWALK THAT HAS ENOUGH RIGHT OF WAY TO RECONSTRUCT AT THE TIME THE PLANS WERE DRAWN. ADDITONAL SIDEWALK CAN BE INSTALLED AT THE DIRECTION OF THE RESIDENT ENGINEER ONCE THE RIGHT OF ENTRY HAS BEEN OBTAINED BY THE LOCAL MUNICIPALITIES. THE QUANTITIES REFLECT THE TOTAL AMOUNT OF SIDEWALK REPLACEMENT THAT BOTH MUNICIPALITIES HAVE REQUESTED FOR THE SUBJECT IMPROVEMENT.

33. THE DEPARTMENT WILL REIMBURSE CTA DIRECTLY FOR TWO HUNDRED SEVENTY SIX (276) CTA FLAGGER SHIFTS FOR THE IMPROVEMENT AT THE CRAWFORD AT-GRADE CROSSING. FLAGGER SHIFT IN EXCESS OF 276 CTA FLAGGING SHIFTS ARE AT THE CONTRACTOR'S EXPENSE AND WILL NOT BE REIMBURSED. ANY COSTS WITH EQUIPMENT AND MATERIAL PROCUREMENT ASSOCIATED WITH THE CTA FLAGGER SHIFTS WILL BE CONSIDERED INCIDENTAL TO THE PAY ITEM, CRAWFORD GRADE CROSSING (CTA) PER LUMP SUM. FOR FURTHER DETAILS ABOUT THE REQUIREMENTS, PLEASE REFER TO SPECIAL PROVISION 412 – CTA CRAWFORD CROSSING SPECIAL PROVISIONS.

34. ALL TIE BARS SHALL BE EPOXY COATED ACCORDING TO AASHTO M 284 AND STATED IN ARTICLE 1006.10 (2) OF THE IDOT STANDARD SPECIFICATIONS. THE EPOXY COATING APPLICATOR SHALL BE CERTIFIED ACCORDING TO THE CURRENT IDOT BUREAU OF MATERIALS AND PHYSICAL RESEARCH'S POLICY MEMORANDUM, "EPOXY COATING PLANT CERTIFICATION PROCEDURE". IDOT MAINTAINS AN APPROVED LIST.

LANDSCAPING NOTES

1. SODDED AREAS DESIGNATED BY THE ENGINEER, SHALL INCLUDE FERTILIZER NUTRIENTS AND SUPPLEMENTAL WATERING. SODDED SLOPES WHICH ARE 2:1 OR STEEPER SHALL BE STAKED. PROVIDE A 3 FOOT SODDED STRIP AROUND CATCH BASINS IN SEEDED AREAS.

2. SUPPLEMENTAL WATERING WHICH IS TO BE USED AFTER THE SODDING: ALL DISTURBED AREAS INDICATED ON THE TYPICAL CROSS-SECTIONS TO BE INITIAL WATERING AS SPECIFIED OR AS DIRECTED BY THE ENGINEER, SHALL BE APPLIED AT THE RATE OF 10 GALLONS PER SQUARE YARD OF SODDING.

3. FERTILIZER NUTRIENTS FOR SODDING:

   USE A FERTILIZER WITH AN ANALYSIS OF 1:1:1 RATIO

   RATE PER ACRE: 60 LBS. NITROGEN FERTILIZER NUTRIENT
   60 LBS. PHOSPHORUS FERTILIZER NUTRIENT
   60 LBS. POTASSIUM FERTILIZER NUTRIENT

   4" TOP SOIL LAYER; SHALL BE SPREAD ON ALL DISTURBED AREAS AS SHOWN ON THE TYPICAL CROSS SECTIONS.

4. THE INDICATED TREES (INCLUDING STUMPS) TO BE REMOVED SHALL BE SUITABLY MARKED BY THE ENGINEER BEFORE TREE REMOVAL OPERATING BEGIN.

5. PLANTING OF TREES AND SHRUBS SHALL BE IN ACCORDANCE WITH SECTION 253 OF THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION"

6. THE CONTRACTOR SHALL TAKE EXTRA CARE IN PREPARING THE PLANTING BED FOR SHRUBS AND DIGGING HLES FOR TREES BY LIMITING HIS OPERATION TO WHAT IS INDICATED ON PLANS. DO NOT STOCKPILE ANY DIRT ON PRIVATE PROPERTY. REMOVE ALL DEBRIS AT ONCE AS REQUIRED.

7. THE CONTRACTOR SHALL NOTIFY THE PUBLIC UTILITY COMPANIES OF THE INTENT TO PLANT TREES AS INDICATED IN THE PLANS BY THE VILLAGE OF LINCOLNWOOD AND THE VILLAGE OF SKOKIE PRIOR TO THE START OF HOLE EXCAVATIONS. WHEN NECESSARY, THE COMPANIES WILL VERIFY AND ESTABLISH THE PRESENCE OF UNDERGROUND PIPES, CONDUITS OR CABLES ADJOINING OR CROSSING THESE AREAS. THE ENGINEER MAY RELOCATE THE PLANTINGS AS REQUIRED. FOR ANY TREES AND SHRUBS TO BE PLANTED ON PRIVATE PROPERTY, THE CONTRACTOR MUST ASK PERMISSION FROM THE OWNER OR OWNERS OF SUCH PROPERTY.

8. TREES TO BE REMOVED: THE INDICATED TREES (INCLUDING STUMPS) TO BE REMOVED SHALL BE SUITABLY MARKED BY THE ENGINEER BEFORE TREE REMOVAL OPERATIONS BEGIN.

9. TREES TO BE SAVED: PARTICULAR EFFORT SHALL BE MADE TO SAVE ALL DESIRABLE EXISTING TREES OR UNDERGROWTH UNDER 6" DIAMETER CALIPER SIZE WHEN THEY ARE LOCATED OUTSIDE THE PROPOSED SHOULDER OR DITCH LINES IN AREAS OF CUT OR FILL SLOPES HAVING A GRADE CHANGE OF LESS THAN 1 FOOT. A MINIMUM OF GRADING IS TO BE PERMITTED WITHIN AN APPROXIMATE RADIUS OF 6' FROM ALL TREES TO BE SAVED AS DETERMINED BY THE ENGINEER.

10. FOR PLANTING SOIL MIXTURE, MULCH MATERIAL BRACING, SIZE AND DEPTH OF HOLE EXCAVATION AND RELATED PLANTING INFORMATION, SEE PLANTING DATA

11. THE TOPSOIL, SHREDDED TREE BARK AND WEED BARRIER FABRIC USED WITH THE PREPARED BACKFILL AND OVER MULCH COVER AREAS, AS WELL AS EXCAVATION, MULCH, WRAPPING, BRACING AND CARE OF THE PLANT MATERIAL, SHALL BE CONSIDERED AS INCLUDED IN THE COST OF THE PLANT MATERIAL.

12. INSECT CONTROL: THE CONTRACTOR SHALL, BY STANDARD SPRAYING OR DUSTING METHODS, CONTROL ALL INSECT INFESTATIONS AS THEY MAY APPEAR ON THE TREES DURING THE LIFE OF THE CONTRACT. METHOD OF SPRAYING OR DUSTING INCLUDING MATERIALS USED SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE. THE COST OF THE MATERIAL AND LABOR REQUIRED TO PERFORM THE WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PLANT MATERIAL.

13. THE CONTRACTOR SHALL ATTACH TO ALL TREES A WATERPROOF LABEL STATING THE BOTANICAL NAME AND SIZE OF THE RESPECTIVE SPECIES ON EACH LABEL.

BITUMINOUS MIX REQUIREMENTS

PAY ITEM	AC TYPE	RAP % (MAX.)	DESIGN AIR VOIDS
HOT- MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5, N70	PG 64-22	10%	4% AT 70 GYRATIONS
HOT- MIX ASPHALT BINDER COURSE, IL-19.0, N70	PG 64-22	15%	4% AT 70 GYRATIONS
LEVELING BINDER, (MACHINE METHOD), IL-19.0, N50	PG 64-22	25%	4% AT 50 GYRATIONS

COUNTY OF COOK
DEPT OF TRANSPORTATION & HIGHWAYS

GENERAL NOTES
CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

COMPUTED: PV
DRAWN: PV
CHECKED: KLP
APPROVED: JAN. 30, 2013
[illegible], P.E.
BUREAU CHIEF OF DESIGN

G-1R

COUNTY HIGHWAY	FISCAL YEAR	SHEET NUMBER	TOTAL SHEETS
343	2013	G-29	

SECTION [illegible]

ITEM NUMBER	PAY ITEM	UNIT	TOTAL QUANTITIES	COOK COUNTY	VILLAGE OF LINCOLNWOOD	VILLAGE OF SKOKIE
1	BORROW EXCAVATION	CU.YD.	500	500		
2	CRAWFORD GRADE CROSSING (CTA)	L SUM	1	1		
3	EARTH EXCAVATION	CU.YD.	43569	43569		
4	PAVER DRIVEWAY REMOVAL AND PLACEMENT	SQ.YD.	30	30		
5	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1		
6	SPECIAL WASTE GROUND WATER DISPOSAL	GAL	160	160		
7	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1		
8	BOWLES PERIWINKLE (VINCA MINOR BOWLES), 4 IN PLUG	EACH	4035			4035
9	BULBS, GLOBEMASTER ALLIUM (ALLIUM GLOBEMASTER)	EACH	300			300
10	BULBS, SPRING BEAUTY SCILLA (SCILLA SIBERICA SPRING BEAUTY)	EACH	7400			7400
11	BULBS, TETE A TETE DAFFODIL (NARCISSUS DAFFODIL TETE A TETE)	EACH	2100			2100
12	FORBS, BLUE HILL SALVIA (SALVIA X SYLVESTRIS BLUE HILL), 1 GALLON	EACH	490			490
13	FORBS, HAPPY RETURNS DAYLILY (HEMEROCALLIS HAPPY RETURNS), 1 GALLON	EACH	230			230
14	FORBS, MAX FREI GERANIUM (GERANIUM MAX FREI), 1 GAL	EACH	948			948
15	FORBS, MOONSHINE YARROW (ARCHILLEA X MOONSHINE), 1 GALLON	EACH	280			280
16	FORBS, PARDON ME DAYLILY (HEMEROCALLIS PARDON ME), 1 GAL	EACH	230			230
17	FORBS, PURPLE DOME ASTER (ASTER PURPLE DOME), 1 GALLON	EACH	132			132
18	FORBS, ROSY RETURNS DAYLILY (HEMEROCALLIS ROSY RETURNS), 1 GALLON	EACH	230			230
19	FORBS, RUSSIAN SAGE (PEROVSKIA ATRIPLICIFOLIA), 1 GALLON	EACH	32			32
20	FORBS, VIETTES LITTLE SUZY BLACK EYED SUSAN (RUDBECKIA VIETTES LITTLE SUZY), 1 GALLON	EACH	264			264
21	FORBS, WALKERS LOW CATMINT (NEPETA X FAASSENNII WALKERS LOW), 1 GALLON	EACH	155			155
22	GRASSES, HAMELN FOUNTAINGRASS (PENNISETUM ALLOPECURIODES HAMELN), 1 GALLON	EACH	132			132
23	GRASSES, KARL FOERSTER GRASS (CALAMAGROSTIS X ACUTIFLORA KARL FOERSTER), 1 GALLON	EACH	32			32
24	GRASSES, PRAIRIE DROPSEED GRASS (SPOROBOLUS HETEROLEPSIS), 1 GALLON	EACH	346			346
25	GROUND COVER, GREEN CARPET JAPANESE SPURGE (PACHYSANDRA GREEN CARPET), 4 IN PLUG	EACH	4385			4385
26	GROUND COVER, LILY TURF (LIRIOPE SPICATA), 1 GALLON	EACH	920			920
27	GROUND COVER, THORNDALE ENGLISH IVY (HEDERA HELIX THORNDALE), 4 IN PLUG	EACH	1565			1565
28	HARDWOOD MULCH (SHREDDED AND SCREENED BROWN HARDWOOD MULCH)	CU.YD	266			256
29	IRRIGATION SYSTEM - AREA 1	EACH	1			1
30	IRRIGATION SYSTEM - AREA 2	EACH	1			1
31	IRRIGATION SYSTEM - AREA 3	EACH	1			1
32	NITROGEN FERTILIZER NUTRIENT	POUND	560	560		
33	PHOSPHORUS FERTILIZER NUTRIENT	POUND	560	560		
34	POTASSIUM FERTILIZER NUTRIENT	POUND	560	560		
35	SHRUBS, THE KNOCKOUT ROSE (ROSA KNOCKOUT), 5 GALLON	EACH	24			24
36	SODDING, SALT TOLERANT	SQ.YD.	14800	14800		
37	SUPPLEMENTAL WATERING	UNIT	3100	3092		8
38	TOPSOIL FURNISH AND PLACE	CU.YD	2402			2402
39	TOPSOIL FURNISH AND PLACE, 4 IN	SQ.YD.	14800	14800		
40	TREE REMOVAL (6 TO 15 UNITS DIA)	UNIT	1420	1420		
41	TREE REMOVAL (OVER 15 UNITS DIA)	UNIT	3875	3875		
42	TREE SLOW RELEASE WATERING BAG	EACH	98	98		
43	TREE, AUTUMN BLAZE MAPLE (ACER X FREMANNII AUTUMN BLAZE), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	6			6
44	TREE, CHANTICLEER PEAR (PYRUS CALLERYANNA CHANTICLEER), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	10			10
45	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 3.5 IN CALIPER, BALLED AND BURLAPPED	EACH	20		20	
46	TREE, KENTUCKY COFFEETREE (GYMNOCLADUS DIOICUS), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	5			5
47	TREE, PRUNUS VIRGINIANA (CANADIAN CHOKECHERRY), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	14		14	
48	TREE, PYRUS CALLERYANA CHANTICLEER (CHANTICLEER CALLERY PEAR), 3.5 IN CALIPER, BALLED AND BURLAPPED	EACH	6		6	
49	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 3.5 IN CALIPER, BALLED AND BURLAPPED	EACH	20		20	
50	TREE, SHADEMASTER HONEYLOCUST (GLEDITSIA TRIACANTHOS SHADEMASTER), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	8			8
51	TREE, TRIUMPH ELM (ULMUS X MORTON GLOSSY), 3 IN CALIPER, BALLED AND BURLAPPED	EACH	9			9
52	EROSION CONTROL BLANKET	SQ.YD.	7800	7800		
53	INLET FILTERS	EACH	238	238		
54	PERIMETER EROSION BARRIER	FOOT	835	835		
55	AGGREGATE (PRIME COAT)	TON	20	20		
56	AGGREGATE BASE COURSE, TYPE B, 10 IN	SQ.YD.	150	150		
57	AGGREGATE BASE COURSE, TYPE B, 4 IN	SQ.YD.	11000	9320	1140	540
58	AGGREGATE BASE COURSE, TYPE B, 6 IN	SQ.YD.	350	350		
59	AGGREGATE FOR TEMPORARY ACCESS	TON	250		250	
60	AGGREGATE SUBGRADE, 12 IN	SQ.YD.	68950	68950		
61	CRUSHED STONE (TEMPORARY USE)	L SUM	1	1		
62	BITUMINOUS MATERIALS (PRIME COAT)	GAL	880	880		
63	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	60	60		
64	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5, N70	TON	40	40		
65	LEVELING BINDER (MACHINE METHOD) IL-9.5, N50	TON	740	740		
66	TEMPORARY BY-PASS PAVEMENT	SQ.YD.	1050	1050		
67	PAVEMENT FABRIC	SQ.YD.	250	250		
68	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, HIGH-EARLY-STRENGTH, 8 IN.	SQ.YD.	2300	2300		
69	PORTLAND CEMENT CONCRETE PAVEMENT, 10 IN	SQ.YD.	60100	60100		
70	PORTLAND CEMENT CONCRETE SIDEWALK, 5 IN	SQ.FT.	69330	54300	10230	4800
71	PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN.	SQ.FT.	8650	8300	350	
72	PROTECTIVE COAT	SQ.YD.	17100	15380	1180	540
73	COMBINATION CURB AND GUTTER REMOVAL	FOOT	29200	29200		
74	CONCRETE MEDIAN REMOVAL	SQ.FT.	2760	2760		
75	CURB REMOVAL	FOOT	220	220		
76	DRIVEWAY PAVEMENT REMOVAL	SQ.YD.	2400	2400		
77	PAVEMENT REMOVAL	SQ.YD.	54920	54920		
78	SIDEWALK REMOVAL	SQ.FT.	77980	62600	10580	4800
79	PAVEMENT REPLACEMENT	SQ.YD.	757	757		

ITEM NUMBER	PAY ITEM	UNIT	TOTAL QUANTITIES	COOK COUNTY	VILLAGE OF LINCOLNWOOD	VILLAGE OF SKOKIE
80	DETECTABLE WARNINGS	SQ.FT.	1628	1628		
81	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	8790	8790		
82	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	FOOT	19750	19750		
83	CONCRETE CURB, TYPE B	FOOT	220	220		
84	CONCRETE MEDIAN, TYPE SB-6.12	SQ.FT.	2170	2170		
85	CONTRACT EXTRA WORK	UNIT	150000	150000		
86	ENGINEERS FIELD OFFICE, TYPE A	CAL.MO.	24	24		
87	CONSTRUCTION LAYOUT STAKES AND SURVEY CONTROL POINTS	L SUM	1	1		
88	SURVEY MONUMENTS	EACH	3	3		
89	CHAIN LINK FENCE REMOVAL	FOOT	240	240		
90	CHAIN LINK FENCE, 6 FT	FOOT	240	240		
91	STORM SEWER REMOVAL, 10 IN	FOOT	829	829		
92	STORM SEWER REMOVAL, 12 IN	FOOT	1191	1191		
93	STORM SEWER REMOVAL, 15 IN	FOOT	1157	1157		
94	STORM SEWER REMOVAL, 18 IN	FOOT	488	488		
95	STORM SEWER REMOVAL, 21 IN	FOOT	158	158		
96	STORM SEWER REMOVAL, 6 IN	FOOT	567	567		
97	STORM SEWER REMOVAL, 8 IN	FOOT	3084	3084		
98	BLOCKING EXISTING DRAINS AND SEWERS (18 IN OR LESS)	EACH	34	34		
99	BLOCKING EXISTING DRAINS AND SEWERS (OVER 18 IN)	EACH	1	1		
100	FILLING VALVE VAULTS	EACH	47		47	
101	STORM SEWERS, ABANDON & FILL	CU.YD.	1	1		
102	FLOW METER SYSTEM	L SUM	1		1	
103	PIPE UNDERDRAINS, PERFORATED POLYVINYL CHLORIDE (PVC) PIPE, 6 IN	FOOT	1835	1835		
104	PLUGGING EXISTING DRAINS AND SEWERS (12 IN OR LESS)	EACH	17	17		
105	STORM SEWERS, TYPE 1 (RCCP CLASS III) 36 IN	FOOT	1030	1030		
106	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 12 IN	FOOT	4663	4663		
107	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 15 IN	FOOT	800	800		
108	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 24 IN	FOOT	1220	1220		
109	STORM SEWERS, TYPE 2 (RCCP CLASS III) 15 IN	FOOT	528	528		
110	STORM SEWERS, TYPE 2 (RCCP CLASS III) 18 IN	FOOT	211	211		
111	STORM SEWERS, TYPE 2 (RCCP CLASS III) 42 IN	FOOT	5019	5019		
112	CATCH BASINS TO BE ADJUSTED	EACH	3	3		
113	CATCH BASINS, TYPE A2, 4 FT DIA WITH FRAME AND GRATE	EACH	210	210		
114	CATCH BASINS, TYPE C, 2 FT DIA WITH FRAME AND GRATE	EACH	17	17		
115	REMOVING CATCH BASINS	EACH	62	62		
116	INLETS, TYPE A, WITH FRAMES AND GRATES	EACH	11	11		
117	REMOVING INLETS	EACH	63	63		
118	MANHOLES TO BE ADJUSTED	EACH	7	7		
119	MANHOLES, TYPE A, 4 FT DIA WITH FRAME AND GRATE	EACH	17	17		
120	MANHOLES, TYPE A, 5 FT DIA WITH FRAME AND GRATE	EACH	6	6		
121	MANHOLES, TYPE A, 6 FT DIA WITH FRAME AND GRATE	EACH	17	17		
122	MANHOLES, TYPE A, 6 FT DIA WITH RESTRICTOR PLATE, FRAME AND LID	EACH	2	2		
123	REMOVING MANHOLES	EACH	38	38		
124	SANITARY MANHOLES, DROP, 4 FT DIA WITH TYPE 1 FRAME AND CLOSED LID	EACH	1	1		
125	ADJUSTING WATER SERVICES	FOOT	825		825	
126	CASING PIPE FOR WATER SERVICES, 2 IN	FOOT	1600		1600	
127	CASING PIPE FOR WATER SERVICES, 4 IN	FOOT	30		30	
128	CONNECTION TO EXISTING WATER MAIN	EACH	39		39	
129	DOMESTIC METER VAULTS TO BE ADJUSTED	EACH	2	2		
130	DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED	EACH	2	2		
131	WATER SERVICE CONNECTION (LONG)	EACH	58		58	
132	WATER SERVICE CONNECTION (SHORT)	EACH	48		48	
133	CASING PIPE FOR WATER MAIN, 16 IN	FOOT	178		178	
134	CASING PIPE FOR WATER MAIN, 20 IN	FOOT	125		125	
135	CASING PIPE FOR WATER MAIN, 30 IN	FOOT	59		59	
136	DUCTILE IRON WATER MAIN (CLASS 52) 10 IN	FOOT	60		60	
137	DUCTILE IRON WATER MAIN (CLASS 52) 12 IN	FOOT	6950		6950	
138	DUCTILE IRON WATER MAIN (CLASS 52) 16 IN	FOOT	190		190	
139	DUCTILE IRON WATER MAIN (CLASS 52) 18 IN	FOOT	110		110	
140	DUCTILE IRON WATER MAIN (CLASS 52) 20 IN	FOOT	320		320	
141	DUCTILE IRON WATER MAIN (CLASS 52) 4 IN	FOOT	20		20	
142	DUCTILE IRON WATER MAIN (CLASS 52) 6 IN	FOOT	400		400	
143	DUCTILE IRON WATER MAIN (CLASS 52) 8 IN	FOOT	540		540	
144	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 12 IN, SPECIAL	FOOT	135		135	
145	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 18 IN, SPECIAL	FOOT	24		24	
146	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 20 IN, SPECIAL	FOOT	35		35	
147	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 8 IN, SPECIAL	FOOT	140		140	
148	DUCTILE IRON WATER MAIN, RESTRAINED JOINT, 12 IN	FOOT	350		350	
149	EXTRA DUCTILE IRON FITTINGS AND ACCESSORIES	POUND	5000		5000	
150	NITRILE GASKETS FOR WATER MAIN 10 IN	EACH	2		2	
151	NITRILE GASKETS FOR WATER MAIN 12 IN	EACH	75		75	
152	NITRILE GASKETS FOR WATER MAIN 16 IN	EACH	10		10	
153	NITRILE GASKETS FOR WATER MAIN 18 IN	EACH	2		2	
154	NITRILE GASKETS FOR WATER MAIN 20 IN	EACH	10		10	
155	NITRILE GASKETS FOR WATER MAIN 4 IN	EACH	2		2	
156	NITRILE GASKETS FOR WATER MAIN 6 IN	EACH	2		2	
157	NITRILE GASKETS FOR WATER MAIN 8 IN	EACH	10		10	
158	STEEL CASING PIPE AUGER AND JACK 20 IN	FOOT	70		70	

COUNTY OF COOK
DEPT. OF TRANSPORTATION AND HIGHWAYS

SUMMARY OF QUANTITIES
CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

COMPUTED: [illegible]
DRAWN: [illegible]
CHECKED: [illegible]

G-2R

COUNTY HIGHWAY	FISCAL YEAR	SHEET NUMBER	TOTAL SHEETS
[illegible]	2013	C-3R	

SECTION [illegible]

ITEM NUMBER	PAY ITEM	UNIT	TOTAL QUANTITIES	COOK COUNTY	VILLAGE OF LINCOLNWOOD	VILLAGE OF SKOKIE
159	WATER MAIN LINE STOP, 12 IN	EACH	2		2	
160	WATER MAIN LINE STOP, 6 IN	EACH	2		2	
161	WATER MAIN LINE STOP, 8 IN	EACH	2		2	
162	SANITARY MANHOLES TO BE ADJUSTED	EACH	36	36		
163	SANITARY MANHOLES, 4 FT DIA. WITH FRAME AND LID	EACH	5	5		
164	SANITARY SEWER REMOVAL, 8 IN	FOOT	32	32		
165	SANITARY SEWER, (POLYVINYL CHLORIDE PIPE SDR-26) 8 IN.	FOOT	944	944		
166	BUFFALO BOXES TO BE REMOVED	EACH	102		102	
167	VALVE VAULTS TO BE ADJUSTED	EACH	50	50		
168	VALVE VAULTS, TYPE A, 4 FT DIA WITH FRAME AND GRATE	EACH	2	2		
169	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 4 FT	EACH	21		21	
170	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 5 FT	EACH	25		25	
171	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 6 FT	EACH	10		10	
172	WATER VALVE BOXES TO BE ADJUSTED	EACH	2	2		
173	WATER VALVES, 10 IN	EACH	1		1	
174	WATER VALVES, 12 IN	EACH	25		25	
175	WATER VALVES, 16 IN	EACH	4		4	
176	WATER VALVES, 18 IN	EACH	1		1	
177	WATER VALVES, 20 IN	EACH	5		5	
178	WATER VALVES, 4 IN	EACH	1		1	
179	WATER VALVES, 6 IN	EACH	2		2	
180	WATER VALVES, 8 IN	EACH	17		17	
181	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	EACH	23		23	
182	FIRE HYDRANTS TO BE REMOVED	EACH	21		21	
183	BACKFILL PLUGS	CU.YD.	30	30		
184	CONTROLLED LOW-STRENGTH MATERIAL	CU.YD.	196	1	195	
185	EXPLORATORY TRENCHES UP TO 10 FEET	EACH	150		150	
186	NON-SPECIAL WASTE DISPOSAL	CU.YD.	16810	16810		
187	SOIL DISPOSAL ANALYSIS	EACH	3	3		
188	TRENCH BACKFILL	CU.YD.	16872	10500	6372	
189	PRESSURE CONNECTION 20 IN x 12 IN	EACH	1		1	
190	PRESSURE CONNECTION 20 IN x 8 IN	EACH	1		1	
191	PRESSURE CONNECTION 6 IN x 6 IN	EACH	1		1	
192	TEMPORARY PAVEMENT	SQ.YD.	400		400	
193	CHANGEABLE MESSAGE SIGN	CAL.MO.	39	34	5	
194	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	1		
195	TRAFFIC CONTROL DEVICES - DETOUR ROUTING	L.SUM	1	1		
196	TRAFFIC PROTECTION	L.SUM	1	1		
197	ERADICATION OF EXISTING PAVEMENT MARKING	SQ.FT.	3400	3400		
198	MODIFIED URETHANE PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ.FT.	705	705		
199	MODIFIED URETHANE PAVEMENT MARKING - LINE 12 IN	FOOT	4820	4820		
200	MODIFIED URETHANE PAVEMENT MARKING - LINE 24 IN	FOOT	885	885		
201	MODIFIED URETHANE PAVEMENT MARKING - LINE 4 IN	FOOT	24885	24885		
202	MODIFIED URETHANE PAVEMENT MARKING - LINE 6 IN	FOOT	3340	3340		
203	PAVEMENT MARKING TAPE, TYPE III, 4 IN	FOOT	10280	10280		
204	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ.FT.	40	40		
205	THERMOPLASTIC PAVEMENT MARKING - LINE 12 IN	FOOT	150	150		
206	THERMOPLASTIC PAVEMENT MARKING - LINE 24 IN	FOOT	35	35		
207	THERMOPLASTIC PAVEMENT MARKING - LINE 4 IN	FOOT	1320	1320		
208	THERMOPLASTIC PAVEMENT MARKING - LINE 6 IN	FOOT	80	80		
209	RELOCATE SIGN PANEL ASSEMBLY, TYPE A	EACH	15	15		
210	RELOCATE SIGN PANEL ASSEMBLY, TYPE B	EACH	1	1		
211	REMOVE SIGN PANEL ASSEMBLY, TYPE A	EACH	110	110		
212	SIGN PANEL, TYPE 1	SQ.FT.	670	670		
213	TELESCOPING STEEL SIGN SUPPORT	FOOT	1550	1550		
214	ELECTRIC SERVICE INSTALLATION	EACH	2		2	
215	ELECTRIC UTILITY SERVICE CONNECTION	L.SUM	1		1	
216	LIGHT POLE BASE, CLAMSHELL, SPECIAL	EACH	77		77	
217	LIGHT POLE BASE, HDPE, SPECIAL	EACH	77		77	
218	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 4 & 12 FOOT DAVIT ARM, SPECIAL	EACH	2		2	
219	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 8 FOOT DAVIT ARMS, SPECIAL	EACH	2		2	
220	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 90 - 8 FOOT DAVIT ARM, SPECIAL	EACH	3		3	
221	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, SINGLE - 8 FOOT DAVIT ARM, SPECIAL	EACH	70		70	
222	LIGHTING CONTROLLER, SPECIAL	EACH	1		1	
223	LUMINAIRE, ITEM F1, SPECIAL	EACH	108		108	
224	LUMINAIRE, ITEM F2, SPECIAL	EACH	5		5	
225	LUMINAIRE, ITEM F3, SPECIAL	EACH	1		1	
226	MAINTENANCE OF LIGHTING SYSTEM COMPLETE	L.SUM	1		1	
227	REMOVAL OF LIGHTING UNIT, SALVAGE	EACH	75		75	
228	REMOVAL OF POLE FOUNDATION	EACH	75		75	
229	LIGHT DETECTOR	EACH	4		2	2
230	LIGHT DETECTOR AMPLIFIER	EACH	2		1	1
231	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	EACH	18	18		
232	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	EACH	11	11		
233	PEDESTRIAN PUSH-BUTTON	EACH	36	36		
234	PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE I	EACH	1	1		
235	FULL-ACTUATED CONTROLLER AND TYPE SUPER-P CABINET	EACH	4	4		
236	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	EACH	1	1		
237	INDUCTIVE LOOP DETECTOR	EACH	52	52		

ITEM NUMBER	PAY ITEM	UNIT	TOTAL QUANTITIES	COOK COUNTY	VILLAGE OF LINCOLNWOOD	VILLAGE OF SKOKIE
238	MASTER CONTROLLER	EACH	1	1		
239	MODIFY EXISTING LIGHTING CONTROLLER	EACH	1		1	
240	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1	1		
241	REMOVAL LIGHTING CONTROLLER, SPECIAL	EACH	2		2	
242	UNINTERRUPTIBLE POWER SUPPLY	EACH	1	1		
243	UNINTERRUPTIBLE POWER SUPPLY WITHOUT CABINET	EACH	4	4		
244	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 26 FT AND 24 FT	EACH	1	1		
245	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT	EACH	1	1		
246	STEEL MAST ARM ASSEMBLY AND POLE, 28 FT	EACH	1	1		
247	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT	EACH	1	1		
248	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT	EACH	3	3		
249	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT	EACH	2	2		
250	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT	EACH	2	2		
251	TEMPORARY TRAFFIC SIGNAL TIMINGS	EACH	6	6		
252	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT	EACH	7	7		
253	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT	EACH	8	8		
254	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-3 SECTION, BRACKET MOUNTED	EACH	3	3		
255	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION, BRACKET MOUNTED	EACH	2	2		
256	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED	EACH	1	1		
257	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	7	7		
258	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	1	1		
259	SIGNAL HEAD, LED, 1-FACE, 1-SECTION, POST MOUNTED, RETROFIT	EACH	2	2		
260	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	26	26		
261	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	EACH	9	9		
262	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	5	5		
263	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4	4		
264	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	43	43		
265	UNDERGROUND CONDUIT, GALVANIZED STEEL, 1 1/4 IN DIA	FOOT	90	90		
266	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2 IN DIA	FOOT	360	360		
267	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 IN DIA	FOOT	19520	6020	13500	
268	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 IN DIA	FOOT	10	10		
269	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4 IN DIA	FOOT	850	850		
270	BANNER ARMS	EACH	46		46	
271	TEMPORARY FLASHING BEACON INSTALLATION	EACH	1	1		
272	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	6	6		
273	CONCRETE FOUNDATION, TYPE A	FOOT	32	32		
274	CONCRETE FOUNDATION, TYPE D	FOOT	10		10	
275	CONCRETE FOUNDATION, TYPE E - 30 IN DIA	FOOT	74	74		
276	CONCRETE FOUNDATION, TYPE E - 36 IN DIA	FOOT	59	59		
277	LIGHT POLE FOUNDATION, SPECIAL	FOOT	735		735	
278	REMOVAL OF POLE FOUNDATION, FULL DEPTH	EACH	1		1	
279	DOUBLE HANDHOLE	EACH	1	1		
280	HANDHOLE	EACH	23	22	1	
281	HEAVY-DUTY HANDHOLE	EACH	4	3	1	
282	DETECTOR LOOP, TYPE I	FOOT	1440	1440		
283	ELECTRIC CABLE IN CONDUIT, 600 V (XLP-TYPE USE) 1/C NO 2	FOOT	270		270	
284	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 3/0	FOOT	750		750	
285	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	66035		66035	
286	ELECTRIC CABLE IN CONDUIT, GROUNDING NO 6 1C (GREEN)	FOOT	3400	3400		
287	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO 14 1 PAIR	FOOT	8020	8020		
288	ELECTRIC CABLE IN CONDUIT, NO 20 3/C, TWISTED, SHIELDED	FOOT	1290		980	310
289	ELECTRIC CABLE IN CONDUIT, SERVICE NO 6 2C	FOOT	475	475		
290	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 2C	FOOT	3940	3940		
291	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 3C	FOOT	6240	4950	980	310
292	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 5C	FOOT	8550	8550		
293	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 7C	FOOT	1920	1920		
294	ELECTRIC CABLE IN CONDUIT, TRACER NO 14 1C	FOOT	1460	1460		
295	FIBER OPTIC CABLE IN CONDUIT, NO 62.5/125 MM12F & SM12F	FOOT	1460	1460		
296	FIBER-OPTIC TRANSCEIVER	EACH	3	3		
297	GROUNDING EXISTING HANDHOLE FRAME AND COVER	EACH	11	11		
298	SERVICE INSTALLATION, POLE MOUNTED	EACH	4	4		
299	DRILL EXISTING HANDHOLE	EACH	12	12		
300	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	4		4	
301	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	3		3	
302	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	5870	5870		
303	REMOVE EXISTING CONCRETE FOUNDATION	EACH	19	19		
304	REMOVE EXISTING HANDHOLE	EACH	18	18		
305	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	6	6		
306	WATER MAIN TO BE ADJUSTED 4 IN	FOOT	10	10		
307	WATER MAIN TO BE ADJUSTED 6 IN	FOOT	10	10		
308	WATER MAIN TO BE ADJUSTED 8 IN	FOOT	10	10		
309	WATER MAIN TO BE ADJUSTED 10 IN	FOOT	10	10		
310	WATER MAIN TO BE ADJUSTED 12 IN	FOOT	10	10		
311	WATER MAIN TO BE ADJUSTED 16 IN	FOOT	10	10		
312	WATER MAIN TO BE ADJUSTED 18 IN	FOOT	10	10		
313	WATER MAIN TO BE ADJUSTED 20 IN	FOOT	10	10		
314	STORM SEWER, (POLYVINYL CHLORIDE PIPE SDR-26) 12 IN.	FOOT	200	200		
315	ADJUSTING SANITARY SEWERS, 8 IN DIAMETER OR LESS	FOOT	10	10		
316	ADJUSTING SANITARY SEWERS, OVER 8 IN DIAMETER	FOOT	10	10		

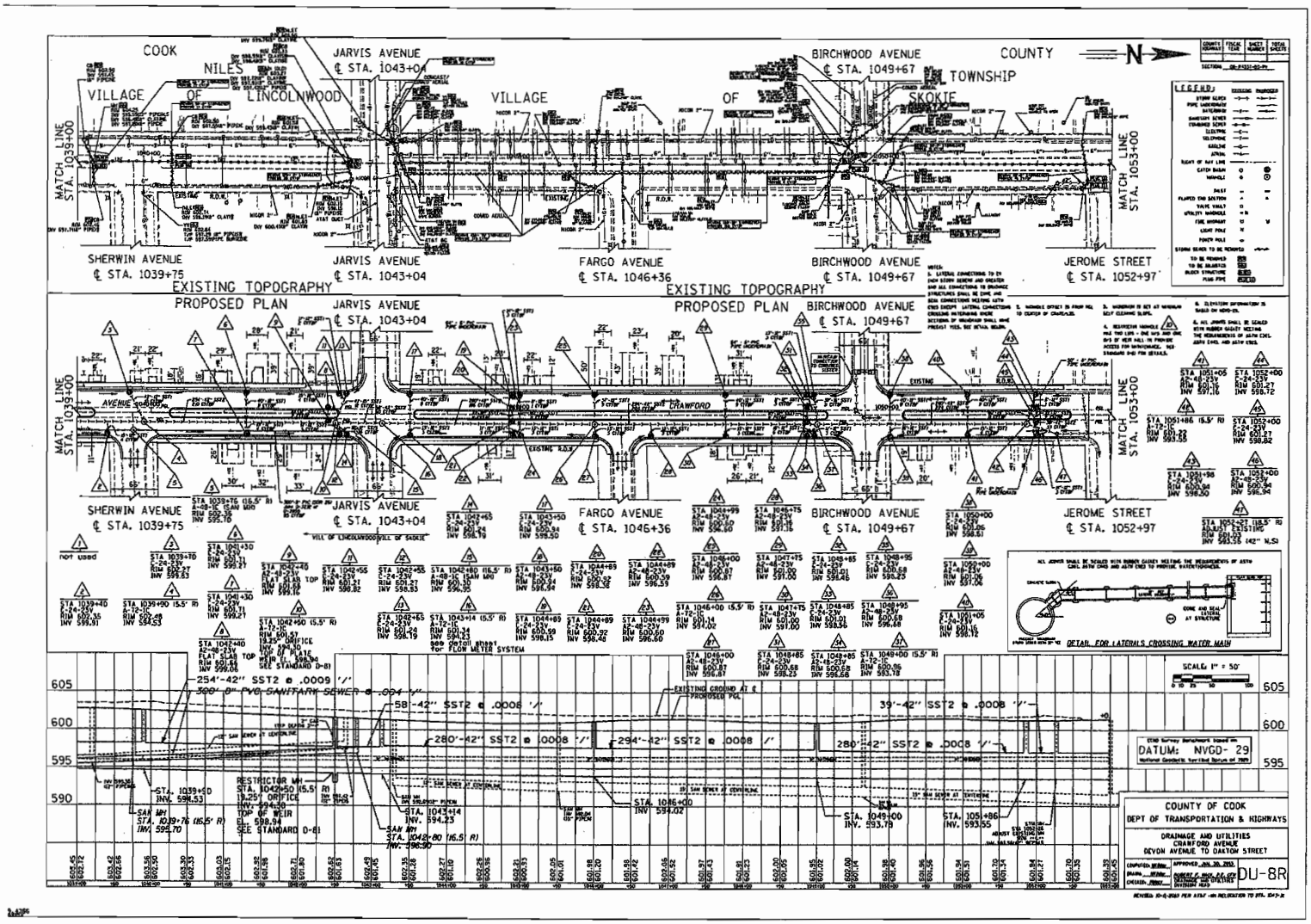
COUNTY OF COOK

DEPT. OF TRANSPORTATION AND HIGHWAYS

SUMMARY OF QUANTITIES
CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

COMPUTED: [illegible]
DRAWN: [illegible]
CHECKED: [illegible]

C-3R


COOK
COUNTY
NILES
VILLAGE OF LINCOLNWOOD
VILLAGE OF SKOKIE
TOWNSHIP
JARVIS AVENUE
℄ STA. 1043+04
BIRCHWOOD AVENUE
℄ STA. 1049+67
MATCH LINE STA. 1039+00
MATCH LINE STA. 1053+00
SHERWIN AVENUE
℄ STA. 1039+75
FARGO AVENUE
℄ STA. 1046+36
JEROME STREET
℄ STA. 1052+97
EXISTING TOPOGRAPHY
PROPOSED PLAN
DETAIL FOR LATERALS CROSSING WATER MAIN
SCALE: 1" = 50'
DATUM: NVGD- 29
COUNTY OF COOK
DEPT OF TRANSPORTATION & HIGHWAYS
DRAINAGE AND UTILITIES
CRAWFORD AVENUE
DEVON AVENUE TO DAKTON STREET
DU-8R

Bidding Contract Document Book Changes

SPECIAL PROVISION FOR PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN

Description. Work under this pay item shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Materials. The Cement Factor shall be a minimum of 7.35 cwt. The mix shall be designed according to Section 3.0 of the IDOT QC/QA PCC Level III Technician Manual. High early strength concrete shall achieve a minimum compressive strength of 3,500 psi within 3 days of placement.

Basis of Payment. This work shall be paid for at the contract unit price per square feet Portland Cement Concrete Sidewalk, High-Early-Strength, 8 in. The price shall include all materials and labor.

TEMPORARY PAVEMENT

This work shall consist of installing temporary pavement as required by the Engineer for water main installations that cross travel lanes to be kept open to the public. The temporary pavement shall be a minimum 4" hot-mix asphalt surface course installed in two lifts and compacted per IDOT specifications.

This item includes all costs associated with installing and removing the temporary pavement. The Contractor is responsible for maintaining the temporary pavement and replacing failed sections as required by the Engineer. Replacing failed sections of temporary pavement the Contractor has installed shall be considered incidental to this pay item.

When the hot mix asphalt plants are not open and temporary pavement is required the Contractor shall install a minimum 8" of PCC. The concrete shall be reach a minimum 3,500 psi at 14 days and shall be steel plated until the concrete is cured. The Contractor may use IDOT PV type III or IDOT PV mixes for the temporary pavement.

Payment for TEMPORARY PAVEMENT shall be for at the contract unit price per SQ YD, which shall be full compensation for all labor, materials, disposal and equipment necessary to complete the work as specified.

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Special Provision for Scheduling and Landscaping

1. Once the contract is awarded and the notice to proceed is provided by the Department, the contractor can start. No permanent lane closures or staging will be allowed along Crawford Avenue until April 1, 2014 without the approval of the Resident Engineer. Lane closures on roadways under IDOT jurisdiction, including Devon Avenue, Lincoln Avenue, Touhy Avenue, and Howard Street-east-of-Crawford Avenue will not be allowed before April 15, 2014.

2. The final completion date for this project is **August 28, 2015**. All work on this improvement shall be complete on the completion date with exception of landscaping as designated herein.

3. Temporary lane closures in addition to approved maintenance of traffic will be restricted to Monday through Saturday from 9 a.m. to 3 p.m. Any work outside that time must be in accordance with the local noise ordinances and approved by the Resident Engineer.

4. The Contractor is required to notify the Resident Engineer and the municipalities at least 14 days in advance of any street or driveway closure.

5. The contractor will schedule and coordinate with the Resident Engineer construction work to minimize impact with major events and religious holidays (i.e. noise, access).

6. As approved by the Resident Engineer, Contractor will be allowed to close residential cross streets for a maximum of 1 week duration to construct pavement. Adjacent cross streets may not be closed simultaneously. Failure to open cross street after 1 week of full closure will result in liquidated damages of $200/day.

7. As approved by the Resident Engineer, Contractor will be allowed to close residential driveways for a maximum of 3 week duration to complete work. Failure to open driveway after 3 week closure will result in liquidated damages of $200/day.

8. The Contractor will schedule and coordinate with the Resident Engineer construction work near the schools along Crawford Avenue to minimize impact to school operations. Cross streets which provide access to schools, including Green Leaf Avenue, Lunt Avenue, Howard Street and Dobson Street shall remain open during the school year. Full closure of these streets in accordance with item number 5 of this special provision will only be allowed between June 7 and August 15.

9. An interim completion date of **June 30, 2014** is mandated to open Crawford Avenue from Devon Avenue to Lincoln Avenue to two-way traffic.

10. An interim completion date of **November 21, 2014** is mandated for the following: pavement, curb & gutter, storm sewer, water main, landscape median, and all major work to Crawford Ave south of Howard Street.

    A. All mainline pavement, curb & gutter, drainage and traffic signal work south of the centerline of Howard Street

    B. Installation of the proposed storm sewer and Lincolnwood water main.

    C. Install landscaped median between Pratt Blvd. to south of Howard Street. (sod, plants and trees may be installed later)

11. The Improvement will restart the following year on March 1, 2015 or another date with the approval of the Resident Engineer.

12. All landscaping items contained in this contract shall be undertaken and completed in accordance with the seasonal restrictions found in the plans, specifications and special provisions. This work, or portions thereof, shall be undertaken as directed by the Engineer, and a total of five (5) working days beyond the contract final completion date is allowed in order to complete landscaping work.

13. Failure to meet the interim completion dates and final completion date for the above specified work will result in liquidated damages being applied according to Article 108.09 of the Standard Specifications.

Contractor: _____

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
08-W4337-03-PV

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
49	20	EACH	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 3.5 IN CALIPER, BALLED AND BURLAPPED	$ -	$ -
50	8	EACH	TREE, SHADEMASTER HONEYLOCUST (GLEDITSIA TRIACANTHOS SHADEMASTER), 3 IN CALIPER, BALLED AND BURLAPPED	$ -	$ -
51	9	EACH	TREE, TRIUMPH ELM (ULMUS X MORTON GLOSSY), 3 IN CALIPER, BALLED AND BURLAPPED	$ -	$ -
52	7,800	SQ.YD.	EROSION CONTROL BLANKET	$ -	$ -
53	238	EACH	INLET FILTERS	$ -	$ -
54	835	FOOT	PERIMETER EROSION BARRIER	$ -	$ -
55	20	TON	AGGREGATE (PRIME COAT)	$ -	$ -
56	150	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 10 IN	$ -	$ -
57	11,000	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 4 IN	$ -	$ -
58	350	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 8 IN	$ -	$ -
59	250	TON	AGGREGATE FOR TEMPORARY ACCESS	$ -	$ -
60	68,950	SQ.YD.	AGGREGATE SUBGRADE, 12 IN	$ -	$ -
61	1	L.SUM	CRUSHED STONE (TEMPORARY USE)	$ -	$ -
62	880	GAL.	BITUMINOUS MATERIALS (PRIME COAT)	$ -	$ -
63	60	TON	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	$ -	$ -
64	40	TON	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5, N70	$ -	$ -
65	740	TON	LEVELING BINDER (MACHINE METHOD) IL-9.5, N50	$ -	$ -
66	1,050	SQ.YD.	TEMPORARY BY-PASS PAVEMENT	$ -	$ -
67	250	SQ.YD.	PAVEMENT FABRIC	$ -	$ -
68	2,300	SQ.YD.	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, HIGH-EARLY-STRENGTH, 8 IN.	$ -	$ -
69	60,100	SQ.YD.	PORTLAND CEMENT CONCRETE PAVEMENT, 10 IN	$ -	$ -
70	69,330	SQ.FT.	PORTLAND CEMENT CONCRETE SIDEWALK, 5 IN	$ -	$ -
71	8,650	SQ.FT.	PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN.	$ -	$ -
72	17,100	SQ.YD.	PROTECTIVE COAT	$ -	$ -
73	29,200	FOOT	COMBINATION CURB AND GUTTER REMOVAL	$ -	$ -
74	2,760	SQ.FT.	CONCRETE MEDIAN REMOVAL	$ -	$ -
75	220	FOOT	CURB REMOVAL	$ -	$ -

(CONTINUED ON NEXT PAGE)

Contractor: _____

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
08-W4337-03-PV

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
215	1	L.SUM	ELECTRIC UTILITY SERVICE CONNECTION	$ 2,500.00	$ 2,500.00
216	77	EACH	LIGHT POLE BASE, CLAMSHELL, SPECIAL	$ -	$ -
217	77	EACH	LIGHT POLE BASE, HDPE, SPECIAL	$ -	$ -
218	2	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 4 & 12 FOOT DAVIT ARM, SPECIAL	$ -	$ -
219	2	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 8 FOOT DAVIT ARMS, SPECIAL	$ -	$ -
220	3	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 90 - 8 FOOT DAVIT ARM, SPECIAL	$ -	$ -
221	70	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, SINGLE - 8 FOOT DAVIT ARM, SPECIAL	$ -	$ -
222	2	EACH	LIGHTING CONTROLLER, SPECIAL	$ -	$ -
223	108	EACH	LUMINAIRE, ITEM F1, SPECIAL	$ -	$ -
224	5	EACH	LUMINAIRE, ITEM F2, SPECIAL	$ -	$ -
225	1	EACH	LUMINAIRE, ITEM F3, SPECIAL	$ -	$ -
226	1	L.SUM	MAINTENANCE OF LIGHTING SYSTEM COMPLETE	$ -	$ -
227	75	EACH	REMOVAL OF LIGHTING UNIT, SALVAGE	$ -	$ -
228	75	EACH	REMOVAL OF POLE FOUNDATION	$ -	$ -
229	4	EACH	LIGHT DETECTOR	$ -	$ -
230	2	EACH	LIGHT DETECTOR AMPLIFIER	$ -	$ -
231	18	EACH	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	$ -	$ -
232	11	EACH	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	$ -	$ -
233	36	EACH	PEDESTRIAN PUSH-BUTTON	$ -	$ -
234	1	EACH	PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE I	$ -	$ -
235	4	EACH	FULL-ACTUATED CONTROLLER AND TYPE SUPER-P CABINET	$ -	$ -
236	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	$ -	$ -
237	52	EACH	INDUCTIVE LOOP DETECTOR	$ -	$ -
238	1	EACH	MASTER CONTROLLER	$ -	$ -
239	1	EACH	MODIFY EXISTING LIGHTING CONTROLLER	$ -	$ -
240	1	EACH	OPTIMIZE TRAFFIC SIGNAL SYSTEM	$ -	$ -
241	2	EACH	REMOVAL LIGHTING CONTROLLER, SPECIAL	$ -	$ -

(CONTINUED ON NEXT PAGE)

NOTICE TO BIDDERS, SPECIFICATIONS, CONTRACT AND CONTRACT BOND

FOR
HIGHWAY IMPROVEMENT
County of Cook, Illinois

Toni Preckwinkle
Cook County Board President

John Yonan, P.E.
Superintendent
Cook County Department of
Transportation and Highways

Shannon E. Andrews
Chief Procurement Officer

Letting: November 6, 2013 at 10 a.m.

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
Section: 08-W4337-03-PV ROUTE W43

Cook County Procurement Contract No.: 13-88-13051

NOTICE TO PROSPECTIVE BIDDERS

The Specifications can be downloaded at http://198.65.148.209/purchasing/public/index.php (follow online instructions to register, if you have not already). When the plans are not included in the bid document, you must download the Plans (Drawings) at ftp://130.94.31.166/ (user name: highway; password ftpt3st)

Pre-Bid Meeting: Tuesday, October 15, 2013
Cook County Department of Transportation and Highways
69 W. Washington Street, Suite 2260
Chicago, Illinois 60602

All questions are due on **Friday, October 18, 2013**, no later than 3:00pm Chicago time

Send all questions via e-mails to: renee.milton@cookcountyil.gov

Bid Submitted by:

☐ **Bid Bond** is included ☐ **A Cashier's Check** or a **Certified Check** is Included

Name _____ Phone No. _____

Address _____

City _____ State _____ Zip Code _____

8) **The following completed documents are to be submitted <u>with the Bid</u>:**

Joint Venture Forms	1 original
IDOT Certificate of Eligibility	1 copy
IDOT Affidavit of Availability	1 copy
Economic Disclosure Statement and Execution Documents:	
MBE/WBE Utilization Plan	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
MBE/WBE Participation Plan	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
Letter of Intent from MBE/WBE to Perform as Subcontractor, Supplier and/or Consultant	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
Current M/WBE Letter of Certification for each participant	**1 copy**
Petition for Reduction/Waiver of MBE/WBE Participation Goals	1 original
Contractor Certifications	1 original
Economic and Other Required Disclosures	1 original
Lobby, Local Business Preference, Real Estate Ownership	1 original
Affidavit of Child Support Obligations	1 original
Disclosure of Ownership Interest Statement	1 original
Familial Relationship Disclosure Provision	1 original
Certification Concerning Labor Standards And Prevailing Wage Requirements	1 original
Subcontractors Certification Concerning Labor Standards and Prevailing Wage Requirements	1 copy
Execution Pages:	
Sole Proprietor Signature Page	6 originals
Partnership and/or Joint Venture Signature Page	6 originals
Corporation Signature Page	6 originals
Bid Deposit Form	1 original
Proposal Bid Bond	1 original
Surety Statement of Qualifications	1 original

The following documents are to be submitted subsequent to notice of acceptance <u>within fourteen (14) calendar days</u>:

Performance and Payment Bond	1 original
Certificates of Insurance evidencing:	
Worker's Compensation and Employer's Liability	1 original
Commercial General Liability	1 original
Commercial Automobile Liability	1 original
Excess Liability Insurance	1 original
Contractor's Pollution Liability	1 original
Railroad Protective Liability (when applicable)	1 original & 1 certified copy
Trust Agreement	1 original

COOK COUNTY BOARD OF ETHICS
69 W. WASHINGTON STREET, SUITE 3040
CHICAGO, ILLINOIS 60602
312/603-4304
312/603-9988 FAX 312/603-1011 TT/TDD

FAMILIAL RELATIONSHIP DISCLOSURE PROVISION:

Section 2-582 of the Cook County Ethics Ordinance requires any person or persons doing business with Cook County to disclose to the Cook County Board of Ethics the existence of familial relationships they may have with all persons holding elective office in the State of Illinois, the County of Cook, or in any municipality within the County of Cook. A person is considered to be "doing business" with Cook County if that person has any one or any combination of leases, contracts, or purchases to or with Cook County or any Cook County agency in excess of $25,000 in any calendar year.

The required disclosure shall be filed by January 1 of each calendar year and again with each bid/proposal/quotation to do business with Cook County. Any person filing a late disclosure shall be assessed a late filing fee of $100.00 per day that the disclosure is late after an initial 30-day grace period. Any person found guilty of violating any provision of this section or knowingly filing a false, misleading, or incomplete disclosure to the Cook County Board of Ethics shall be prohibited, for a period of three (3) years, from engaging, directly or indirectly, in any business with Cook County.

If you have questions concerning this disclosure requirement, please call the Cook County Board of Ethics at (312) 603-4304.

ADDITIONAL DEFINITIONS:

"*Familial relationship*" means a person who is related to an official or employee as spouse or any of the following, whether by blood, marriage or adoption:

- Parent
- Child
- Brother
- Sister
- Aunt
- Uncle
- Niece
- Nephew
- Grandparent
- Grandchild
- Father-in-law
- Mother-in-law
- Son-in-law
- Daughter-in-law
- Brother-in-law
- Sister-in-law
- Stepfather
- Stepmother
- Stepson
- Stepdaughter
- Stepbrother
- Stepsister
- Half-brother
- Half-sister

Please forward documents due within fourteen (14) days of notice of acceptance to:

Cook County Department of Transportation and Highways
Contract Documents
69 West Washington Street
Suite 2400
Chicago, IL 60602

TONI PRECKWINKLE
PRESIDENT

SHANNON E. ANDREWS
CHIEF PROCUREMENT OFFICER

118 N. CLARK STREET
ROOM 1018
CHICAGO, ILLINOIS 60602
TEL: 312-603-5370
FAX: 312-603-3179

ADDENDUM NO. 1

October 16, 2013

CRAWFORD AVENUE TO OAKTON STREET: IMPROVEMENT
For
Cook County Department of Transportation and Highways

Bid Document No. 1388-13051

To: All Bidders of Record

A. General:

This addendum revises bid documents. This addendum is issued to bidder of record prior to execution of contract, and forms a part of contract documents and modifies previously issued documents. Insofar as previously issued contract documents are inconsistent with modifications indicated by this addendum, modifications indicated by this addendum shall govern. Where any part of the contract documents are modified by this addendum, all unaltered provisions shall remain in effect.

B. Bid Form:

Acknowledge receipt of this addendum in space provided on bid form on the proposal pages. Failure to do so will subject bidder to disqualification.

C. Attachments:

The addendum includes attachments described in this addendum. One copy of each attachment is issued with this addendum, unless otherwise indicated. Check receipt of attachments issued with this addendum.

D. Filing:

Insert attachments in respective contract document in correct sequence and location. Revise specification contents to reflect modifications of the addendum, as applicable.

ORIGINATED BY:

Renee Milton
Senior Contract Negotiator

SHANNON E. ANDREWS CHIEF
PROCUREMENT OFFICER

E. PRE-BID MEETING ATTENDEES ATTACHED

PRE-BID ATTENDEE SIGN-IN SHEET
CRAWFORD AVE TO OAKTON STREET,
SECTION 08-W4337-03-PV ROUTE W43
BID NO. 1388-13051

Attendee Name: Emsi Oshana Company Name: Montana Const. Company Address: 1200 Gasket Dr Elgin, IL 60120 Telephone: 847-608-6800 Fax: 847-608-6804 E-Mail: Emsi@montana.com Please print clearly	{Business Card}
Attendee Name: Autumn Harris Company Name: GSG Consultants/ GSG Material Testing Company Address: 855 W. Adams, Ste 200 Chicago, IL 60607 Telephone: 312-733-6262 Fax: 312-733-5612 E-Mail: AHARRIS@GSG-CONSULTANTS.COM Please print clearly	{Business Card}
Attendee Name: Nick Eilk Company Name: K-Five **Company Address:** 13769 Main St Lemont, IL 60439 Telephone: 630-257-5600 E-Mail: nicke@k-five.net Please print clearly	{Business Card}
Attendee Name: Company Name: Company Address: Telephone: Fax: E-Mail: Please print clearly	{Business Card}

PRE-BID ATTENDEE SIGN-IN SHEET
CRAWFORD AVE TO OAKTON STREET,
SECTION 08-W4337-03-PV ROUTE W43
BID NO. 1388-13051

Attendee Name: _____
Company Name: _____
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Company Address: _____
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Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

Attendee Name: _____
Company Name: _____
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Fax: _____
E-Mail: _____
Please print clearly

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Fax: _____
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Please print clearly

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Company Name: _____
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Company Address: _____
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Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

JARRIE BROWN
ETHICS INVESTIGATOR
COOK COUNTY DEPARTMENT OF HUMAN RIGHTS,
ETHICS & WOMEN'S ISSUES

69 W. WASHINGTON ST., SUITE 3040
CHICAGO, IL 60602-3007
WEBSITE: www.cookcountygov.com

OFFICE: (312) 603-1128
FAX: (312) 603-9988
TDD: (312) 603-1101
jarrie.brown@cookcountyil.gov

Val Schiop
Office Engineer

val@capitolcementco.com
(P) (773) 478-2200
(F) (773) 478-4646
(C) (773) 617-7823

Estab 1914
CAPITOL CEMENT COMPANY, INC.
6231 North Pulaski Road, Chicago, IL 60646
General Contractor
www.CapitolCementCo.com

- SINCE 1927 -
LINDAHL BROTHERS, INC.
EXCAVATING - GRADING - TRUCKING
622 E. GREEN STREET - BENSENVILLE, IL 60106

SCOTT FABER
PROJECT ENGINEER
EMAIL: SCOTTF@LINDAHLBROS.COM

CHICAGO PHONES:
(773) 622-4500 / 625-4500
FAX (630) 595-0976
SUBURBAN PHONE:
(630) 595-1080
WWW.LINDAHLBROS.COM

Ron McGinnis
Estimator/Project Manager

Glenbrook

Glenbrook Excavating & Concrete, Inc.
1350 North Old Rand Road
Wauconda, Illinois 60084
General Contractors

Phone: 847.724.9477
Cell: 847.417.3990
Fax: 847.459.9476
Rmcginnis@GlenbrookExcavating.com

PRE-BID ATTENDEE SIGN-IN SHEET
CRAWFORD AVE TO OAKTON STREET,
SECTION 08-W4337-03-PV ROUTE W43
BID NO. 1388-13051

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
_____
_____
Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

Bob Bialek

ALAMP CONCRETE CONTRACTORS INC.

Roads, Parking Lots, Parks, Driveways
Excavation, Sewer and Water, Concrete, Asphalt, Sod
Milling & Crushing

1900 Wright Boulevard
Schaumburg, IL 60193

Office (847) 891-6000 ext.-104
Fax (847) 891-1873
E-mail: bbialek@alampconcrete.com

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
_____
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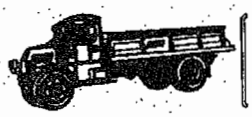
Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

ACI

ALLIANCE CONTRACTORS, INC.

Scott A. Marquart
Vice-President



1166 Lake Ave.
Woodstock, IL 60098
Phone (815) 338-5900
Fax (815) 338-9109
email: smarquart@alliancecontractors.com

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
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Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

Attendee Name: _____
Company Name: _____
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Company Address: _____
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_____
Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

LORIG CONSTRUCTION COMPANY

LC

Andre Leroux, Jr.
Senior Project Manager

email: leroux@flash.net
Phone: 847/298-0360
Des Plaines, IL 60018

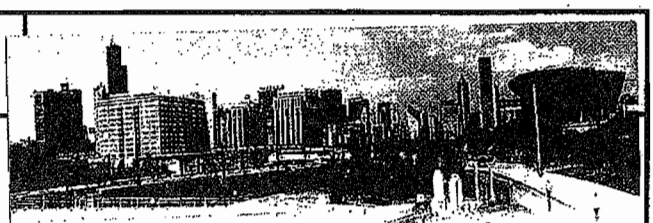
Fax: 847/298-2689
250 E. Touhy Avenue

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
_____
_____
Telephone: _____

{Business Card}

PRE-BID ATTENDEE SIGN-IN SHEET
CRAWFORD AVE TO OAKTON STREET,
SECTION 08-W4337-03-PV ROUTE W43
BID NO. 1388-13051

Fax: _____
E-Mail: _____
Please print clearly



15515 South Crawford Ave.
Markham, IL 60428
Tel: 708-596-7100
Fax: 708-596-7184
Cell: 708-516-8244
www.reyesgroup.com
paul@reyesgroup.com

reyes GROUP

Paul Kim
Project Manager

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
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Telephone: _____
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Please print clearly

Attendee Name: _____
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ANDREW M. PIZZA, P.E.
Site Infrastructure Director

Benchmark Construction Co., Inc.
General Construction / Construction Management
Engineering Services

3349 S. Kedzie Ave.
Chicago, IL 60623
773-247-0881
Cell: 630-330-4846

2260 Southwind Blvd.
Bartlett, IL 60103
630-497-1700 Ext. 244
apizza@bmk8.com

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
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Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

CHRISTY WEBBER LANDSCAPES

Matt Draus
Project Manager
2900 West Ferdinand Street, Chicago, IL 60612
voice: 773.533.0477, ext. 292 fax: 773.533.0771
email: matt.draus@christywebber.com cell: 312.841.1549
"RIGHT IN YOUR OWN BACKYARD"®

Attendee Name: _____
Company Name: _____
_____
Company Address: _____
_____
_____
Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

TOM GAYTON
Sales Representative
email:tgayton@meyermaterial.com
Mobile: 847/980-1348

MEYER MATERIAL COMPANY
READY MIX CONCRETE • AGGREGATES
CONCRETE PLACEMENT • BUILDING MATERIALS
(815) 331-7200
Main Office: 1819 North Dot Street, McHenry, IL 60051-0511

Attendee Name: _____
Company Name: _____
_____
Company Address: _____

PRE-BID ATTENDEE SIGN-IN SHEET
CRAWFORD AVE TO OAKTON STREET,
SECTION 08-W4337-03-PV ROUTE W43
BID NO. 1388-13051

Telephone: _____
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Please print clearly

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E-Mail: _____
Please print clearly

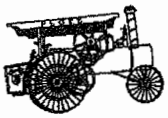
Attendee Name: _____
Company Name: _____
Company Address: _____
Telephone: _____
Fax: _____
E-Mail: _____
Please print clearly

Attendee Name: _____

BERGER
EXCAVATING CONTRACTORS, INC.
EXCAVATING GRADING TRUCKING SEWER & WATER
Kyle Berger
Project Manager
E-mail kberger@bergerexcavating.com
200 W. Superior Street, Suite 303E
Chicago, IL 60654
Phone (312)573-9064
Fax (312)573-9064
1205 Garland Road
Wauconda, IL 60084
Phone (847)526-5457
Fax (847)526-4204
Cell (847)456-3537

"Greco Moves the Earth"
General Contractors
(847) 635-7800
Fax (847) 635-7825
Cell (815) 382-7814
GRECO
CONTRACTORS, INC.
Anselmo Presisto
Estimator/Project Manager
2100 South Mt. Prospect Rd.
Des Plaines, IL 60018
anselmopresisto@yahoo.com

"Greco Moves the Earth"
General Contractors
(847) 635-7800
Fax (847) 635-7825
GRECO
CONTRACTORS, INC.
Alex Occhipinti
Chief Estimator
Project Manager
2100 South Mt. Prospect Rd.
Des Plaines, IL 60018
alexo@grecocontractorsinc.com



ERIK A. SUNDQUIST
ESTIMATOR
esundquist@plote.com
PLOTE CONSTRUCTION INC.
ROAD BUILDING – SITE DEVELOPMENT
www.plote.com
1100 BRANDT DRIVE
~~ELGIN, ILLINOIS 60120~~ HOFF EST., IL 60192
847-695-9300
CELL 847-560-1058
DIRECT 847-628-6073
FAX 847-695-9317

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683	C	Proposal Sheet
684	E(MWBE)	Economic Disclosure Statement: Instructions, IDOT Certificate of Eligibility, IDOT Afidavit of Availability, *MWBE Participation Statement, MWBE Utilization Plan, Letter of Intent from MWBEs, Petition for Reduction/Waiver of MWBE Partiicpation Goals, Contractor Certifications, Economic and Other Disclosures, *Contractor's Certificate Concerning Labor Standards, *Sub-Contractor's Certificate Concerning Labor Standards, Execution Pages
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710	H	Performance and Payment of Bond Form

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727	L	Bid Deposit Form

COUNTY OF COOK

CHICAGO, ILLINOIS

NOTICE

TO CONTRACTORS FOR A COUNTY HIGHWAY IMPROVEMENT

Notice is hereby given that sealed proposals for a County Highway Improvement in the County of Cook, Illinois, as described below, will be received at Room 1018, County Building, Chicago, Illinois

Until Wednesday, October 30, 2013 10:00 a.m. (LOCAL TIME) and then publicly opened and read aloud

Improvement Crawford Avenue Township Niles

From Devon Avenue to Oakton Street

Route W43 Section 08-W4337-03-PV

Cook County Purchasing Contract No.: 13-88-13051

LOCATION OF IMPROVEMENT

The proposed improvement is part of the public highway system in the County of Cook, State of Illinois, located by section before mentioned, and is indicated on the map showing the County Highway System on file in the office of the County Clerk and also in the office of the Illinois Department of Transportation, Division of Highways, Springfield, Illinois.

The improvement to Crawford Avenue begins at Station 977+29, a point approximately 29 feet north of the centerline of Devon Avenue, and extends in a northerly direction to Station 1080+90, a point approximately 184 feet south of the centerline of Oakton Street, for a distance of 10,361 feet (1.962 miles). Also included is an omission at Touhy Avenue, at station 1028+00 to station 1031+00 of the centerline of Crawford Avenue, for a distance of 300 feet (0.057 miles). Also included is an omission at Jerome Street to Dobson Street, at station 1052+70 to station 1059+90 of the centerline of Crawford Avenue, for a distance of 720 feet (0.136 miles). Also included is an omission at the railroad crossing at station 1068+60.54 to station 1069+02.20 of the centerline of Crawford Avenue, for a distance of 41.66 feet (0.008 miles). The improvement and omissions total 9,299 feet (1.761 miles).

The improvement is located within the Village of Lincolnwood, and Village of Skokie.

DESCRIPTION OF IMPROVEMENT

This is a Quality Control/Quality Assurance project.

It is the intent of this contract to provide for the reconstruction of Crawford Avenue North of Devon Avenue. Crawford Avenue North of Devon Avenue will be widened by one (1) foot and reduce the existing sixteen (16) feet median width starting near Farwell Avenue to about ten (10) feet. The proposed four lane road will have an eleven (11) feet lane width each. The existing pavement of Crawford Avenue shall be completely removed and then reconstructed with 10 inch P. C. Concrete Pavement with a 12 inch Aggregate Subgrade on the main line North of Devon Avenue. This project includes the removal and replacement of existing drainage structures, storm sewers, parkway catch basins and sewers, removal and replacement of the traffic signals, railroad gate relocation, water meter installation, water main work for the Village of Lincolnwood, reconstruction of side streets to the curb return, pavement markings, signing, landscaping with topsoil and sodding and tree planting, detour routing, construction staging, traffic protection and all other work as required to complete the improvement.

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
SPECIAL PROVISION CHECK LIST
EFFECTIVE July 15, 2013 V 2013.2
CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
Section: 08-W4337-03-PV

	No.	Description	Origin and Date Last Revised
	1	Definition of Terms, Information for Bidders	(CC) Sept. 19, 2013
X	1a	MBE WBE Definition of Terms, Information for Bidders	(CC)Mar. 28, 2013
X	2	Bidding Requirements and Conditions For Contract Proposals	(IL-CC) Jan. 15, 2013
X	3	* Pre-Bid Meeting	(CC) Jan. 15, 2013
X	4	* Wages of Employees on Public Works	(IL-CC) Dec. 28, 2009
X	5	Alternate Proposal/Ordinance	(CC) Dec. 28, 2011
X	6	Responsible Bidder Requirement (Non-Federal Aid)	(IL-CC) Dec. 28, 2011
	7	Required Contract Provisions (Federal Aid Only)	(IL-CC) Jan. 3, 2012
	8a	* Required Disadvantaged Business Participation (DBE)	(IL-CC) July 15, 2013
X	8b	*MBE/WBE Business Participation	(CC) Jan. 26, 2012
X	9	Specific Equal Employment Opportunity Responsibilities (Non-Federal Aid)	(IL-CC) Jan. 15, 2013
X	10	Insurance Requirements	(CC) Sept. 19, 2013
	10a	Township Insurance Requirements	(CC) Jan. 15, 2013
X	11	* Railroad Protective Liability Insurance	(IL-CC) Dec. 28, 2011
X	12a	Indemnification for Cook County	(CC) Dec. 28, 2011
X	12b	Indemnification (Locals)	(CC) Jan. 23, 2012
X	13	Joint Venture Forms	(CC) Jan. 15, 2013
X	14	Addendum Receipt	(CC) Dec. 28, 2009
	15	ARRA Provisions	(IL) Current
X	16	* Combination Bidding Process	(IL-CC) Jan. 15, 2013
X	17a	Prompt Pay Mechanisms (Non-Federal Aid)	(CC) Jan. 15, 2013
	17b	Prompt Pay Mechanisms (Federal Aid)	
	18-22	Not Used	
X	23	Contract Claims	(IL-CC) Jan. 15, 2013
X	24	Pre-Construction Conference	(CC) Mar. 18, 1980
	25	Mobilization	(CC) Oct. 20, 2009
X	26	Contract Extra Work	(CC) Dec. 24, 2012
X	27	Construction Air Quality Diesel Vehicle Emissions Control (Green Construction Ordinance)	(CC) Jan. 15, 2013
X	28	Processing of Extra Work Payment Requests	(CC) Dec. 24, 2012
X	29	Construction Layout Stakes and Survey Control Points	(CC) Jan. 15, 2013
X	30	* Municipal Coordination/Transfer of Jurisdiction and/or Maintenance	(CC) Jan. 15, 2013
X	31	Engineer's Field Office	(CC) Jan. 15, 2013

	No.	Description	Origin and Date Last Revised
X	32	Construction Debris	(CC) July 1, 2006
X	33	*Clean Construction and Demolition Debris	(CC) Jan. 15, 2013
	34-44	Not Used	
X	45	Portland Cement Concrete Pavement	(CC) July 1, 2012
X	46	Managing Concrete Waste	(CC) Jan. 1, 2009
	47	Class B Patches, Special	(CC) Jan. 1, 2008
	48	Class C Patches, Special	(CC) Jan. 1, 2008
	49	Pavement Removal and Replacement (10Inch)	(CC) Jan. 1, 2008
X	50	Dowel Bars	(CC) Jan. 1, 2008
	51	Structural Fiber Reinforced P.C. Concrete Bus Pad (4 Inch)	(CC) Jan. 1, 2008
	52	P.C.C. Bonded Overlay (4 Inch)	(CC) Jan. 1, 2007
	53	Diamond Grinding Concrete Pavement	(CC) Jan. 15, 2013
	54	Saw Cutting Concrete Overlay	(CC) Jan. 1, 2007
	55	Crack Routing and Sealing	(IL-CC) Jan. 1, 2008
	56	Hot-Mix Asphalt Surface Course, Rubber Modified	(CC) Jan. 1, 2008
	57	Rubberized Asphalt Material	(CC) Jan. 1, 2008
	58	Pavement Thickness Deficiency	(CC) Mar. 1, 2008
X	59	Survey Monuments	(CC) Jan. 15, 2013
X	60	Soils Information	(CC) Jan. 15, 2013
X	61	Stockpiled Embankment	(CC) July 1, 2012
X	62	Borrow Excavation	(CC) July 1, 2000
X	63	Crushed Stone (Temporary Use)	(CC) Jan. 1, 2008
X	64	Aggregate Subgrade, (12 INCH)	(IL) Current
	65	Expanded Polystyrene Fill	(CC) Jan. 15, 2013
	66	Cellular Concrete Fill	(CC) July 1, 2006
	67	GEO-GRID Subgrade Reinforcing Mat	(CC) May 1, 2003
	68	Earth Excavation (Special)	(CC) Jan. 15, 2013
X	69	P.C.C. Surface Finish	(CC) April 7, 2010
	70	Traffic Barrier Terminal, Type 1, Special	(IL-CC) Jan. 1, 2008
X	71	*Scheduling and Landscaping	(CC) Jan. 1, 2008
	72	Cutting Hot-Mix Asphalt Surface	(CC) Jan. 1, 2008
	73	Hot-Mix- Asphalt Driveway Surface Removal	(CC) July 1, 2012
X	74	Temporary Butt Joints	(CC) Jan. 1, 2008
	75	Hot-Mix Asphalt Stabilized Sub base	(CC) Jan. 1, 2008
	76	Hot-In-Place Asphalt Recycling by the Heater Scarifying Overlay Method	(CC) July 1, 2011
	77	Treatment of Cracks	(CC) Jan. 1, 2008
	78	Strip Reflective Crack Control Treatment, Special	(CC) May 1, 2003
	79	Cold Recycled In-Place Bituminous Base Course	(CC) Oct. 1, 2009

	No.	Description	Origin and Date Last Revised
X	80	Temporary By-Pass Pavement (Non-Federal Aid)	(CC) Jan. 1, 2008
	81	Temporary By-Pass Pavement (Federal Aid)	(CC) July 1, 2011
	82	Reflective Crack Control Treatment	(CC) Jan. 1, 2012
	83-116	Not Used	
	117	Approach Slab Repair	(IL-CC) Oct. 4, 2011
	118	Asbestos Waterproofing Membrane & Asbestos Hot-Mix-Asphalt Surface Removal (BDE)	(IL) Current
	119	Not Used	
	120	Segmental Concrete Block Walls	(IL) Current
	121	Temporary Soil Retention System	(IL) Current
	122	Steel Structures	(CC) Nov. 21, 2007
	123	Not Used	
	124	Cleaning and Painting Existing Steel Structures	(IL) Current
	125	Containment and Disposal of Lead Paint Cleaning Residues	(IL) Current
	126	Fine or Coarse Aggregate Embankment	(CC) Jan. 12, 2003
	127	Strip Seal Joint Assembly with Elastomeric Concrete Headers	(CC) Oct. 3, 2011
	128	Drainage System	(IL) Current
	129	Grating	(CC) Jan. 15, 2013
	130	Silicone Bridge Joint Sealer	(IL) Current
	131	Not Used	
	132	Deck Slab Repair	(IL) Current
	133	Bridge Deck Latex Concrete Overlay	(IL) Current
	134	Surface Finish	(IL-CC) Jan. 1, 2007
	135-136	Not Used	
	137	Welded Wire Fabric, Epoxy Coated	(CC) Nov. 21, 2007
	138	Permanent Steel Sheet Piling	(IL) Current
	139	Temporary Sheet Piling	(IL) Current
	140	Precast Concrete Junction Chambers	(CC) Nov. 1, 2007
	141	Jack and Remove Existing Bearings	(IL) Current
	142	Jacking Existing Superstructure	(IL) Current
	143	Junction Chamber	(CC) Jan. 1, 2007
	144	Neoprene Expansion Joint Removal	(CC) Oct. 10, 1995
	145	Structural Repair of Concrete	(IL) Current
	146	Polymer Modified Portland Cement Mortar	(IL) Current
	147	Concrete Wearing Surface for Use With Deck Beams	(IL) Current
	148	Sheet Waterproofing Membrane System	(CC) Nov. 19, 1999
	149	Chain Link Fence (Modified)	(CC) Jan. 1, 2004
	150-155	Not Used	

	No.	Description	Origin and Date Last Revised
	156	Storm Sewer, (Ductile Iron Pipe) and Storm Sewers, (Extra Strength Vitrified Clay Pipe) in the City of Chicago	(CC) Oct. 20, 2009
	157	Water Main for Installation in the City of Chicago	(CC) Dec. 21, 2009
	158	Frames, City Electric in the City of Chicago	(CC) July 1, 2012
	159	Lids, City Electric in the City of Chicago	(CC) April 14, 2009
	160	Lids and Lids, ADA Compliant in the City of Chicago	(CC) April 14, 2009
	161	Various City Drainage and Utility Structure Adjustments in the City of Chicago	(CC) Dec. 21, 2009
	162	Storm Sewer Installation in the City of Chicago	(CC) Dec. 1, 2009
	163	Boring and Jacking Storm Sewers, Sanitary Sewers or Water Mains	(CC) Dec. 1, 2007
	164	Storm Sewers Jacked in Place (Over 36 In. Dia.)	(CC) Dec. 21, 2009
	165	Storm Sewer Drilled and Pushed (36 In. Dia. Max.)	(CC) Dec. 1, 2007
X	166	Storm Sewers, Abandon and Fill	(CC) Jan. 15, 2013
	167	Storm Sewer to be Televised	(CC) July 1, 2012
	168	Connecting Existing Field Drain Tile	(CC) July 1, 2012
X	169	Plugging Existing Drains and Sewers	(CC) Dec. 1, 2007
X	170	Blocking Existing Drains and Sewers	(CC) Dec. 21, 2009
	171	Manholes to be Reconstructed, Special; Catch Basins to be Reconstructed, Special; Valve Vaults to be Reconstructed, Special	(CC) Dec. 1, 2007
	172	Not Used	
X	173	Manholes, Type A, with Restrictor Plate, Frames and Lids	(CC) July 1, 2012
	174	Not Used	
X	175	Lids and Frames and Lids	(CC) Jan. 15, 2013
	176	Frames and Lids to be Adjusted, Special	(CC) Dec. 21, 2009
	177	Headwall Inlet and Grate	(CC) July 1, 2012
	178	Flared End Sections to be Removed, Flared End Sections to be Relocated	(CC) Dec. 30, 2008
	179	Bracing and Sheeting	(CC) Dec. 1, 2007
X	180	Pavement Replacement	(CC) July 1, 2011
	181	Duck Bill Elastomeric Check Valve	(CC) July 1, 2012
	182	Catch Basin Oil and Debris Hoods	(CC) Jan. 15, 2013
	183	Frames and Lids to be Adjusted, Special (Pavement Recycling)	(CC) Jan. 1, 2013
	184	Not Used	
X	185	* Cooperation With Utilities	(CC) Feb. 10, 2012
X	186	Water Valve Boxes to be Adjusted and Domestic Meter Vaults to be Adjusted	(CC) Dec. 21, 2009
X	187	Domestic Water Service Boxes to be Adjusted	(CC) Dec. 21, 2009
	188	Filling Existing Valve Vaults	(CC) Dec. 21, 2009
	189	Valve Vaults to be Removed	(CC) Dec. 21, 2009
	190	Water Main Installation	(CC) Dec. 1, 2009
	191	Fire Hydrants Vertical Adjustment	(CC) Dec. 21, 2009

	No.	Description	Origin and Date Last Revised
	192	Sanitary Sewer Installation	(CC) July 1, 2012
X	193	Sanitary Manholes	(CC) Dec. 21, 2009
X	194	Waterproofing of Existing Sanitary Manholes	(CC) July 1, 2012
	195-199	Not Used	
	200	Cleaning Existing Manholes, Catch Basins or Inlets and Cleaning Existing Storm Sewer and Pipe Culverts	(CC) Dec. 1, 2008
	201	Not Used	
X	202	* National Pollutant Discharge Elimination System	(CC) January 1, 2013
	203	Not Used	
	204	Maintaining Drainage and Stream Protection	(CC) Dec. 1, 2007
	205	Storm Water Pollution Separation System	(CC) July 1, 2012
	206	Storm Water Pollution Separation System (SPECIAL)	(CC) Dec. 1, 2007
	207	Storm Water Pollution Separation System (In-Line)	(CC) July 1, 2012
	208-210	Not Used	
	211	Seeding	(CC) Sept. 1, 2002
X	212	Sodding	(CC) Jan. 15, 2013
	213	Trees To Be Planted	(CC) Jan. 1, 2013
	214	Salvaging and Transplanting Trees; Salvaging and Transplanting Shrubs	(CC) Sept. 1, 2002
X	215	Planting Woody Plants	(CC) Jan. 1, 1997
	216	Seeding, Fine Fescue Blend	(CC) Jan. 1, 2007
	217	Seeding, Class 4B Modified	(CC) Jan. 1, 2007
	218-226	Not Used	
X	227	Work Zone Traffic Control Surveillance	(IL) Current
X	228	Traffic Control Devices – Detour Routing	(CC) July 1, 2012
X	229	Modified Urethane Pavement Marking (BDE)	(IL) Current
X	230	Sign Identification Decal	(CC) Jan. 15, 2013
X	231	Traffic Protection	(CC) July 1, 2012
	232-235	Not Used	
X	236	Project Signs Plaque	(CC) Jan. 15, 2013
X	237	Eradication of Existing Pavement Marking	(CC) Dec. 1, 2009
	238	Raised Reflective Pavement Marker	(IL-CC) July 1, 2012
	239-240	Not Used	
X	241	Traffic Signal Work General	(ILD1CC) Jan. 15, 2013
X	242	Construction at Railroad Crossing	(CC) June 1, 2012
	243	Signal Head, Optically Programmed Signal Head and Pedestrian Signal Head	(CC) June 1, 2012
X	244	Light Emitting Diode (LED) Traffic Signal	(ILD1CC) June 1, 2012
X	245	Light Emitting Diode (LED) Pedestrian Countdown Signal Head	(ILD1CC) June 1, 2012
X	246	Traffic Signal Backplate	(ILD1CC) June 1, 2012

	No.	Description	Origin and Date Last Revised
	247	Illuminated Sign, Light Emitting Diode	(ILD1CC) June 1, 2012
X	248	Traffic Signal Post, Pedestrian Pushbutton Post	(ILD1CC) June 1, 2012
X	249	Steel Mast Arm Assembly and Pole and/or Steel Combination Mast Arm Assembly and Pole	(ILD1CC) June 1, 2012
X	250	Traffic Actuated Controller, Traffic Actuated Controller with Cabinet, Inductive Loop Detector	(ILD1CC) Jan. 15, 2013
X	251	Master Controller	(ILD1CC) Jan. 15, 2013
X	252	Detector Loop	(ILD1CC) Jan. 15, 2013
X	253	Video Detection System For Temporary Traffic Signal Installation	(CC) June 1, 2012
X	254	Pedestrian Pushbutton	(ILD1CC) June 1, 2012
X	255	Conduit	(IL-CC) June 1, 2012
X	256	Coilable Non-Metallic Conduit	(ILD1CC) June 1, 2012
	257	Not used	
X	258	Electric Cable	(ILD1CC) June 1, 2012
	259	Railroad Interconnect Cable	(ILD1CC) June 1, 2012
X	260	Fiber Optic Cable	(ILD1CC) June 1, 2012
X	261	System Ground and Grounding Cable	(ILD1CC) June 1, 2012
X	262	Grounding Existing Handhole Frame and Cover	(ILD1) Current
X	263	Service Installation, Pole Mounted	(ILD1CC) June 1, 2012
	264	Service Installation, Ground Mounted	(ILD1CC) June 1, 2012
	265	* Electric Service	(CC) Jan. 15, 2013
X	266	Handhole	(ILD1CC) June 1, 2012
	267	Rebuild Existing Handhole, Rebuild Existing Heavy Duty Handhole, Rebuild Existing Double Handhole	(CC) June 1, 2012
X	268	Concrete Foundation	(ILD1CC) June 1, 2012
	269	Modify Existing Type "D" Foundation	(CC) June 1, 2012
X	270	Remove Existing Traffic Signal Equipment	(ILD1CC) June 1, 2012
X	271	Temporary Traffic Signal Installation	(ILD1CC) Jan. 15, 2013
X	272	Maintenance of Existing Traffic Signal Installation	(ILD1CC) June 1, 2012
X	273	Emergency Vehicle Priority System	(ILD1CC) June 1, 2012
X	274	Relocate Existing Emergency Vehicle Priority System, Detector Unit	(CC) June 1, 2012
X	275	Relocate Existing Emergency Vehicle Priority System, Phasing Unit	(CC) June 1, 2012
	276	Confirmation Beacon System	(CC) June 1, 2012
	277	Re-Optimize Traffic Signal System	(ILD1CC) Jan. 15, 2013
X	278	Optimize Traffic Signal System	(ILD1CC) Jan. 15, 2013
	279	Median Removal and Replacement	(CC) June 1, 2012
	280	Sidewalk Removal and Replacement	(CC) June 1, 2012
	281	Relocate Existing Light Standard and Luminaire Complete in Place	(CC) Jan. 15, 2013
	282	Maintenance Of Lighting System	(ILD1CC) June 1, 2012

	No.	Description	Origin and Date Last Revised
	283	City Electric Manholes to be Adjusted	(CC) June 1, 2012
X	284	Uninterruptible Power Supply (UPS)	(ILD1CC) June 1, 2012
	285	Traffic Signal Cabinet Load Switch	(CC) June 1, 2012
X	286	Temporary Traffic Signal Timings	(ILD1CC) June 1, 2012
	287	Combination Lighting and Traffic Signal Service Installation, Pole Mounted	(CC) June 1, 2012
	288	Illuminated Street Name Sign	(ILD1CC) June 1, 2012
	289	Relocate Existing Illuminated Street Name Sign	(CC) June 1, 2012
	290	Video Detection System, Single Camera Processor Video Detection	(CC) June 1, 2012
	291	Video Detection System, Complete Intersection	(CC) June 1, 2012
	292	Not Used	
X	293	Uninterruptible Power Supply Without Cabinet	(CC) June 1, 2012
	294	Modifying Existing Controller Cabinet	(ILD1CC) June 1, 2012
	295-300	Not Used	

Additional Inserted Special Provisions (As Required)

- 004a Prevailing Wages for Cook County September 2013
- 33a IEPA 663 Forms Sealed(IDOT)
- 33b IEPA 663 Forms (CCDOTH)
- 33c SP - REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES 2
- 185a Status of Utilities to be Adjusted
- 185b Kinder Morgan
- 400 Portland Cement Concrete Driveway Pavement, High-Early Strength, 8 in.
- 401 Portland Cement Concrete Sidewalk, High-Early Strength, 8 in.
- 402 Tree Slow Release Watering Bag
- 403 Paver Driveway Removal and Placement
- 404 Temporary Flashing Beacon Installation
- 405 Pavement Investigation
- 406 IDOT Special Provision 80273 Traffic Control Deficiency Deduction
- 407 IDOT Special Provision 80277 Concrete Mix Design
- 408 IDOT Special Provision 80278 Planting Woody Plants
- 409 IDOT Special Provision 80320 Liquidated Damages
- 410 IDOT Special Provision 80326 Portland Cement Concrete Equipment
- 411 Crawford Grade Crossing (CTA)
- 412 CTA Crawford Crossing Specs
- 420 Village of Lincolnwood – Flow System SP(020813)
- 421 Village of Lincolnwood - Lighting Spec Bid Set 8-30-13
- 422 Village of Lincolnwood - SP for Water Main Installation (Lincolnwood) 8-20-13
- 423 Village of Lincolnwood - Tree Specifications 8-1-13
- 424 Village of Lincolnwood Municipal Codes
- 430 Village of Skokie - Noise Ordinance
- 431 Village of Skokie - DOCS-#432838-v1-Landscaping Specs for Crawford Avenue
- 440 SP for Sanitary Sewer Installation
- 441 Special Provision for Right-of-Way Parcels Not Acquired

Additional Document Inclusions (Required)

*0 01	Cover Sheet	(CC) Jan. 15, 2013
*0 02	Notice Sheet	(CC) Jan. 15, 2013
*C	Proposal Sheet	(CC) Jan. 1, 2008
*E(M/WBE)	Economic Disclosure Statement Instructions, *MWBE Documents, Contractor Certifications, Economic and Other Disclosures, *Contractor's Certificate Concerning Labor Standards, *Sub-Contractor's Certificate Concerning Labor Standards, Execution Pages	(CC) Mar. 28, 2012

F	Surety's Statement Of Qualification for Bonding	(CC) June 2, 2011
*G1	Trust Agreement	(CC) Jan. 15, 2013
*H	Performance and Payment of Bond Form	(CC) June 9, 2011
*I	Contract	(CC) Jan. 15, 2013
*J	Schedule of Prices Sheets	(CC) Dec. 28, 2011
*K	Proposal Bid Bond	(CC) Jan. 15, 2013
*L	Bid Deposit Form	(CC) Jan. 15, 2013

* Special Provisions marked with an asterisk (*) have information that must be filled in prior to inclusion in the Contract Documents.

Origin of Special Provisions

(CC)	Initiated by Cook County Department of Transportation and Highways
(IL) Current	Initiated by Illinois Department of Transportation
(ILD1) Current	Initiated by Illinois Department of Transportation District 1
(IL-CC)	Initiated by the Illinois Department of Transportation and amended by Cook County Department of Transportation and Highways
(ILD1-CC)	Initiated by Illinois Department of Transportation District 1 and amended by Cook County Department of Transportation and Highways

Initiating Bureau/Division	Cook County Department of Transportation and Highways Special Provision Catalog Number
Contract Documents Office	1-20
Construction Bureau	21-40
Pavement Geometrics Division	41-114
Structural Division	115-155
Drainage Division	156-210
Landscaping Division	211-225
Transportation and Planning Bureau	226-240
Electrical Division	241-300

BY ORDER

BOARD OF COUNTY COMMISSIONERS

THE COUNTY OF COOK

SHANNON E. ANDREWS

CHIEF PROCUREMENT OFFICER

JOHN J. YONAN, P.E.

SUPERINTENDENT OF DEPARTMENT OF TRANSPORTATION AND HIGHWAYS

DEFINITION OF TERMS

PLANS. The plans herein referred to are those prepared by the County Superintendent of Department of Transportation and Highways. The plans which cover the proposed improvement are designated by the section and route numbers inscribed herein and include all standard and special designs pertaining to the proposed improvement.

SPECIFICATIONS. The specifications herein referred to are the Standard Specifications for Road and Bridge Construction, Supplemental Specifications, the special provisions and all written agreements and documents of any description pertaining to the method or manner of performing the work and the quantity or quality of materials to be furnished under the contract. The Standard Specifications for Road and Bridge Construction are those prepared by the Department of Transportation of the State of Illinois, adopted January 1, 2012. The Supplemental Specifications are those prepared by the Department of Transportation of the State of Illinois.

INTENT OF PLANS AND SPECIFICATIONS. The intent of those plans and specifications is to prescribe a complete outline of the proposed improvement which the Contractor undertakes to construct in full compliance with the contract. In case of discrepancy, plans shall govern over Standard and Supplemental Specifications and Special Provisions shall govern over plans and specifications.

ABOUT REQUESTS FOR PLANS & PROPOSALS

The Specification can be downloaded at http://198.65.148.209/purchasing/bids/listallhighway.php (follow online instructions to register, if you have not already). When the plans are not included in the bid document on the http site, you must also download the Plans (Drawings) at ftp://130.94.31.166/ (user name: highway; password ftpt3st).

A compact disk containing the bid documents will be available at the Cook County Building, 118 North Clark Street, Chicago, IL 60602 at Room 1018. One compact disk per company at no charge.

INFORMATION for BIDDERS

1) If the prospective bidder is in doubt as to the meaning of any part of the plans, specifications of other proposed contract documents, they may submit a written clarification to the Chief Procurement Officer (CPO) for an interpretation thereof. The prospective bidder submitting the request will be responsible for the prompt delivery to the Chief Procurement Officer. Any interpretation of the proposal documents will be made by an addendum duly issued through the Cook County Purchasing website.

2) An estimate of quantities of work to be done and material to be furnished under the specifications will be found in the Schedule of Prices. It is the result of calculations and is given as a basis for a comparison of bids and award of a contract.

3) The bidder should include in the bid price in his bid for any taxes such as Occupational, Social Security, Unemployment Compensation, etc., which he might be required to pay in connection with the construction of the proposed improvement. The County of Cook will not reimburse the Contractor for the payment of any such taxes.

4) The Board of County Commissioners for the County of Cook reserves the right to reject any or all bids and to waive technicalities of form. Bids may be rejected if current work being performed for the County of Cook by the bidder has been unsatisfactory from the standpoint of workmanship or progress, or if the contractor has been awarded work by others subsequent to the issuance of the bid, which may, in the judgment of said Board of County Commissioners of Cook County endanger the prompt completion of the proposed improvement.

5) The bidder shall include in his bid a Bid Guarantee in accordance with provisions contained in the proposal form. The return of the bid guarantee will be in accordance with provisions contained in the bid form.

6) The bidder who submits the bid accepted by said Board of Cook County Commissioners shall execute a contract and furnish a satisfactory Surety Bond in the amount of one hundred percent (100%) of the contract price within **fourteen (14) days** after receiving notice of acceptance. Such acceptance being contingent upon the fulfillment of this requirement by said bidder. Failure on the part of said bidder to so execute a Contract and Surety Bond shall be considered just cause for the forfeiture of the bid guaranty as payment of liquidated damages sustained by the County of Cook as the result of such, and the annulment of acceptance of the proposal.

7) If bidder is submitting a bid as a Joint Venture, bidder shall complete the County's Joint Venture Forms and shall submit such Joint Venture Forms **when the bid is submitted.** Bidder is reminded that compliance with the Assumed Business Name Act (805 ILCS 405/1 et seq.) is required of all Joint Ventures.

8) The following completed documents are to be submitted with the Bid:

Joint Venture Forms	1 original
IDOT Certificate of Eligibility	1 copy
IDOT Affidavit of Availability	1 copy
Economic Disclosure Statement and Execution Documents:	
MBE/WBE Utilization Plan	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
MBE/WBE Participation Plan	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
Letter of Intent from MBE/WBE to Perform as Subcontractor, Supplier and/or Consultant	1 copy
(Note: If original cannot be provided a copy is acceptable.)	
Current M/WBE Letter of Certification for each participant	**1 copy**
Petition for Reduction/Waiver of MBE/WBE Participation Goals	1 original
Contractor Certifications	1 original
Economic and Other Required Disclosures	1 original
Lobby, Local Business Preference, Real Estate Ownership	1 original
Affidavit of Child Support Obligations	1 original
Disclosure of Ownership Interest Statement	1 original
Familial Relationship Disclosure Provision	1 original
Certification Concerning Labor Standards And Prevailing Wage Requirements	1 original
Subcontractors Certification Concerning Labor Standards and Prevailing Wage Requirements	1 copy
Execution Pages:	
Sole Proprietor Signature Page	6 originals
Partnership and/or Joint Venture Signature Page	6 originals
Corporation Signature Page	6 originals
Bid Deposit Form	1 original
Proposal Bid Bond	1 original
Surety Statement of Qualifications	1 original

The following documents are to be submitted subsequent to notice of acceptance within fourteen (14) calendar days:

Performance and Payment Bond	1 original
Certificates of Insurance evidencing:	
Worker's Compensation and Employer's Liability	1 original
Commercial General Liability	1 original
Commercial Automobile Liability	1 original
Excess Liability Insurance	1 original
Contractor's Pollution Liability	1 original
Railroad Protective Liability (when applicable)	1 original & 1 certified copy
Trust Agreement	1 original

Please forward documents due within fourteen (14) days of notice of acceptance to:

Cook County Department of Transportation and Highways
Contract Documents
69 West Washington Street
Suite 2400
Chicago, IL 60602

SPECIAL PROVISION
FOR
BIDDING REQUIREMENTS AND CONDITIONS FOR CONTRACT PROPOSALS

Qualification of Bidders

The Awarding Authority for contract construction work is the County Board of a County. Each prospective bidder, in evidence of competence, shall furnish the Awarding Authority a certified copy of a "Certificate of Eligibility" issued by the Illinois Department of Transportation, and Contractor's Statement of Experience and Financial Condition" with their bid. Each prospective bidder shall furnish a sworn statement as to equipment owned and controlled, previous experience and construction work.

If the bidder to whom the award is made is a corporation organized under the laws of the State other than Illinois, the bidder shall furnish the Awarding Authority a copy of the corporation's Certificate of Authority to do business in the State of Illinois with the bid.

The bidder must provide the Awarding Authority a sworn Affidavit of Availability showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work in the bid. The bidder should file two (2) copies of same with IDOT's District office.

Interpretation of Quantities in the Bid Schedule

The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased, or omitted as hereinafter provided.

Examination of Plans, Specifications, Special Provisions, and Site of Work

The bidder shall, before submitting a bid, carefully examine the provisions of the contract. The bidder shall inspect in detail the site of the proposed work, investigate and become familiar with all the local conditions affecting the contract and fully acquaint themselves with the detailed requirements of construction. Submission of a bid shall be a conclusive assurance and warranty the bidder has made these examinations and the bidder understands all requirements for the performance of the work. If the submitted bid is accepted, the bidder shall be responsible for all errors in the bid resulting from the bidder's failure or neglect to comply with these instructions. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses, or change in anticipated profits resulting from such failure or neglect of the bidder to make these examinations.

The bidder shall take no advantage of any error or omission in the bid documents and advertised contract. Any prospective bidder who desires an explanation or interpretation of the plans, specification, or any of the contract documents shall request such in writing from the Awarding Authority in sufficient time to allow a written reply by the Awarding Authority that can reach all prospective bidders before the submission of their bids. Any reply given a prospective bidder concerning any of the contract documents, plans, and specifications will be furnished to all prospective bidders in the form determined by the Awarding Authority including, but not limited to, an addendum, if the information is deemed by the Awarding Authority to be necessary in submitting bids or if the Awarding Authority concludes the information would aid competition. Oral explanations, interpretations, or instructions given before the submission of bids unless at a prebid conference will not be binding on the Awarding Authority.

Changes in Improvement

The undersigned agrees that in case the Superintendent of Cook County Department of Transportation and Highways decides either to extend or decrease the area of the proposed improvement or to do both or otherwise alter it by extras or deductions including the elimination of any one or more of the quantities listed in the Schedule of Prices the undersigned will make such change in the contract price by adding or subtracting there from as the case may be by applying the respective unit prices to the quantities of the several items of work that may be involved by reason of such change.

Preparation of the Bid

Bidders shall submit their bids on the form furnished by the Awarding Authority. The bid shall be executed properly, and bids shall be made for all items indicated in the bid form, except when alternate bids are asked, a bid on more than one alternate for each item is not required, unless otherwise provided. The bidder shall indicate in figures, a unit price for each of the separate items called for in the bid form; the bidder shall show the products of the respective quantities and unit prices in the column provided for that purpose, and the gross sum shown in the place indicated in the bid form shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the bidder which shall be written in ink.

Any erasures or alterations in the unit prices and/or in the products of the respective quantities and unit prices in the bid, must be properly authenticated by the bidder by initialing in ink such erasures or alterations to avoid cause for rejection of the bid in accordance with Title 44 Illinois Administrative Code Chapter IX Section 660.180.

If the bid is made by an individual, that individual's name and business address shall be shown. If made by a firm or partnership, the name and business address of each member of the firm or partnership shall be shown. If made by a corporation, the bid shall show the names, titles, and business addresses of the president, corporate secretary and treasurer. The bid shall be signed by president or someone with authority to execute contracts and attest by the corporate secretary or someone with authority to execute or attest to the execution of contracts.

Rejection of Bids

The Awarding Authority reserves the right to reject any bids for any of the conditions listed below:

a) More than one bid for same work from an individual, firm partnership, or corporation under the same name or different names.

b) Evidence of collusion among bidders.

c) Unbalanced bids in which the bid prices for some items are, in the judgment of the Awarding Authority, out of proportion to the bid prices for other items.

d) If the bid does not contain a unit price for each pay item listed except in the case of authorized alternate pay items or lump sum pay items.

e) If the bid form is other than that furnished by the Awarding Authority; or if the form is altered or any part thereof is detached.

f) If there are omissions, erasures, alterations unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the bid incomplete, indefinite or ambiguous as to its meaning.

g) If the bidder adds any provisions reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

h) If the proposal is not accompanied by the proper bid guaranty.

i) If the bid is prepared with other than ink or typewriter, or otherwise fails to meet the requirement of the above "Preparation of Proposal" section.

j) Lack of Competency and adequate machinery, plant, and other equipment, as revealed by the financial statement and experience questionnaires required in the prequalification procedures.

k) Uncompleted work which, in the judgment of the Awarding Authority, might hinder or prevent the prompt completion of additional work awarded.

l) False information provided on a bidder's "Affidavit of Availability".

m) Failure to pay, or satisfactorily settle, all bills due for labor and material on former contracts in force at the time of issuance of bid forms.

n) Failure to comply with any prequalification regulations of the Department.

o) Default under previous contracts.

p) Unsatisfactory performance record as shown by past work for the Awarding Authority, judged from the standpoint of workmanship and progress.

q) When the contractor is suspended from eligibility to bid at a public letting where the contract is awarded by, or requires approval of, the Department.

r) When any agent, servant, or employee of the prospective bidder currently serves as a member, employee, or agent of a governmental body that is financially involved in the proposal work.

s) When any agent, servant, or employee of the perspective bidder has participated in the preparation of plans or specifications for the proposed work.

Bid Guaranty

Each bid shall be accompanied by a bid bond on the Department form contained in the bid document, executed by a corporate surety company satisfactory to the Awarding Authority, by a bank cashier's check or a properly certified check for not less than five percent (5%) of the amount bid, or for the amount specified in the following schedule:

	Amount Bid	Proposal Guaranty
Up to	$5,000	$150
$5,000	$10,000	$300
$10,000	150,000	$1,000
$50,000	$100,00	$3,000
$100,000	$150,000	$5,000
$150,000	$250,000	$7,500
$250,000	$500,000	$12,500
$500,000	$1,000,000	$25,000
$1,000,000	$1,500,000	$50,000
$1,500,000	$2,000,000	$75,000
$2,000,000	$3,000,000	$100,000
$3,000,000	$5,000,000	$150,000
$5,000,000	$7,500,000	$250,000
$7,500,000	$10,000,000	$400,000
$10,000,000	$15,000,000	$500,000
$15,000,000	$20,000,000	$600,000
$20,000,000	$25,000,000	$700,000
$25,000,000	$30,000,000	$800,000
$30,000,000	$35,000,000	$900,000
Over	$35,000,000	$1,000,000

In the event that one proposal guaranty check is intended to cover two or more bids, the amount must equal to the sum of the bid guaranties, which would be required for each individual proposal.

Bank cashier's checks or properly certified checks accompanying bids shall be made payable to the County Treasurer, when a County is the Awarding Authority; or the City, Village, or Town Treasurer, when a city, village or town is the Awarding Authority.

The bid guaranty checks of all except the two (2) lowest responsible bidders will be returned promptly after the bids have been checked, tabulated, and the relation of the bids established. Bid guaranty checks of the two lowest responsible bidders will be returned as soon as the contract and contract bond of the successful bidder have been properly executed and approved. Bid bonds will not be returned.

After a period of three (3) working days has elapsed after the date of opening proposals, the Awarding Authority may permit the two lowest bidders to substitute for the banks cashier's checks or certified checks submitted with their bids as proposal guaranties, bid bonds on the Department forms executed by corporate surety companies satisfactory to the Awarding Authority.

Delivery of Bids

If a special envelope is supplied by the Awarding Authority, each bid should be submitted in that envelope furnished by the Awarding Authority and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All bids shall be filed prior to the time and at the place specified in the Notice to Bidders. Bids received after the time specified will be returned to the bidder unopened.

Withdrawal of Bids

Bidder may withdraw their bid prior to bid opening.

Public Opening of Bids

Bids will be opened and read publicly at the time and place specified in the Notice to Bidders. Bidders, their authorized agents, and other interested parties are invited to be present.

Consideration of Bids

After the bids are opened and read, they will be compared on the basis of the summation of the products of the quantities shown in the bid schedule by the unit bid prices. In awarding contracts, the Awarding Authority will, in addition to considering the amounts stated in the bids, take into consideration the responsibility of the various bidders as stated under "Rejection of Bids and documents submitted in the bid and from other investigations which it may elect to make.

The right is reserved to reject any or all bids, to waive technicalities, or to advertise from new bids, if in the judgment of the Awarding Authority, the best interests of the Awarding Authority will be promoted thereby.

Awarding of Contract

The award of contract will be made within 90 calendar days after the opening of bids to the lowest responsible and responsive qualified bidder whose bids complies with all the requirements prescribed. The successful bidder will be notified that their bid has been accepted, and subject to the following conditions, the bidder will be the Contractor. In addition, **the contractor shall provide all required insurance and bonding as specified within fourteen (14) calendar days from notice.**

An approved contract executed by the Awarding Authority is required before the Awarding Authority is bound. An award may be cancelled any time by the Awarding Authority prior to execution in order to protect the public interest and integrity of the bidding process or for any other reason, if the judgment of the Awarding Authority and/or the best interests of the Awarding Authority will be promoted thereby.

If a contract is not awarded within 90 days after the bid opening, bidders may file a written request with the Awarding Authority for the withdrawal of their bid, or agree to maintain their bid price.

Requirement of Contract Bond

The Contractor shall furnish the Awarding Authority a performance and payment bond with good and sufficient sureties in the full amount of the contract within **fourteen (14) calendar days** as part of the requirement. The surety shall be acceptable to the Awarding Authority, shall waive notice of any changes and extensions of time, and shall submit its bond on the form furnished by the Awarding Authority.

Failure to Execute Contract

If the contract is not executed by the Awarding Authority within 90 days from the bid opening, the bidder shall have the right to withdraw their bid without penalty.

Failure of the successful bidder to provide all required insurance and bonding within **fourteen (14) days after the award notification** shall be just cause for the cancellation of the award and the forfeiture of the bid guaranty which shall become the property of the Awarding Authority, not as penalty, but in liquidation of damages sustained. Award may then be made to the next lowest responsible bidder, or the work may be advertised again and constructed under contract, or otherwise, as the Awarding Authority may decide.

SPECIAL PROVISION
FOR
PRE-BID MEETING

Prospective bidders are advised that Pre-Bid Meeting will be held:

Date: **Tuesday, October 15, 2013**
Time: 11:00 A.M. (Local Time)

Place: Cook County Department of Transportation and Highways
69 W. Washington Street
Suite 2260
Chicago, IL 60602

SPECIAL PROVISION
FOR
WAGES OF EMPLOYEES ON PUBLIC WORKS

This contract is subject to "An Act Regulating the Wages of all Laborers, Mechanics and Other Workers employed in any public works by the State, County, City or any public body or any political subdivision or by anyone under contract for public works", approved June 26, 1941, as amended, except that where a prevailing wage violates a Federal law, order, or ruling, the rate conforming to the Federal law, order or ruling shall govern.

If it is determined that the "prevailing rate of wages" will be used for this contract, the following conditions will be required:

Not less that the prevailing rate of wages as found by the (public body) or Department of Labor or determined by a court on review shall be paid to all laborers, workers and mechanics performing work under this contract. These prevailing rates of wages are included in this contract.

The Contractor and each subcontractor shall keep an accurate record showing the name and occupations of all laborers, workers and mechanics employed by them on this contract, and also showing the actual wages paid to each of such persons.

The submission by the Contractor and each subcontractor of payrolls, or copies thereof, is not required. However, the Contractor and each subcontractor shall preserve their weekly payroll records for a period of three (3) years from the date of completion of this contract.

If the Department of Labor revised the prevailing rate of hourly wages to be paid by the public body, the revised rate as provided by the public body shall apply to this contract.

Cook County Prevailing Wage for September 2013

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		37.100	37.600	1.5	1.5	2.0	13.38	9.520	0.000	0.500
ASBESTOS ABT-MEC		BLD		35.100	37.600	1.5	1.5	2.0	11.17	10.76	0.000	0.720
BOILERMAKER		BLD		43.450	47.360	2.0	2.0	2.0	6.970	14.66	0.000	0.350
BRICK MASON		BLD		41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000	1.040
CARPENTER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.75	0.000	0.630
CEMENT MASON		ALL		42.350	44.350	2.0	1.5	2.0	12.16	12.35	0.000	0.430
CERAMIC TILE FNSHER		BLD		34.810	0.000	2.0	1.5	2.0	10.20	7.830	0.000	0.640
COMM. ELECT.		BLD		38.000	40.800	1.5	1.5	2.0	8.420	11.30	1.100	0.700
ELECTRIC PWR EQMT OP		ALL		44.850	49.850	1.5	1.5	2.0	10.63	14.23	0.000	0.450
ELECTRIC PWR GRNDMAN		ALL		34.980	49.850	1.5	1.5	2.0	8.290	11.10	0.000	0.350
ELECTRIC PWR LINEMAN		ALL		44.850	49.850	1.5	1.5	2.0	10.63	14.23	0.000	0.450
ELECTRICIAN		ALL		43.000	46.000	1.5	1.5	2.0	12.83	14.27	0.000	0.750
ELEVATOR CONSTRUCTOR		BLD		49.080	55.215	2.0	2.0	2.0	11.88	12.71	3.930	0.600
FENCE ERECTOR		ALL		34.840	36.840	1.5	1.5	2.0	12.86	10.67	0.000	0.300
GLAZIER		BLD		39.500	41.000	1.5	2.0	2.0	11.99	14.30	0.000	0.840
HT/FROST INSULATOR		BLD		46.950	49.450	1.5	1.5	2.0	11.17	11.96	0.000	0.720
IRON WORKER		ALL		42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350
LABORER		ALL		37.000	37.750	1.5	1.5	2.0	13.38	9.520	0.000	0.500
LATHER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.75	0.000	0.630
MACHINIST		BLD		43.920	46.420	1.5	1.5	2.0	6.760	8.950	1.850	0.000
MARBLE FINISHERS		ALL		30.520	0.000	1.5	1.5	2.0	9.700	12.55	0.000	0.590
MARBLE MASON		BLD		40.780	44.860	1.5	1.5	2.0	9.700	12.71	0.000	0.740
MATERIAL TESTER I		ALL		27.000	0.000	1.5	1.5	2.0	13.38	9.520	0.000	0.500
MATERIALS TESTER II		ALL		32.000	0.000	1.5	1.5	2.0	13.38	9.520	0.000	0.500
MILLWRIGHT		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.75	0.000	0.630
OPERATING ENGINEER		BLD	1	46.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	2	44.800	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	3	42.250	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	4	40.500	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	5	49.850	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	6	47.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		BLD	7	49.100	50.100	2.0	2.0	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		FLT	1	51.300	51.300	1.5	1.5	2.0	15.70	10.55	1.900	1.250
OPERATING ENGINEER		FLT	2	49.800	51.300	1.5	1.5	2.0	15.70	10.55	1.900	1.250
OPERATING ENGINEER		FLT	3	44.350	51.300	1.5	1.5	2.0	15.70	10.55	1.900	1.250
OPERATING ENGINEER		FLT	4	36.850	51.300	1.5	1.5	2.0	15.70	10.55	1.900	1.250
OPERATING ENGINEER		FLT	5	52.800	51.300	1.5	1.5	2.0	15.70	10.55	1.900	1.250
OPERATING ENGINEER		HWY	1	44.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	2	43.750	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	3	41.700	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	4	40.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	5	39.100	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	6	47.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
OPERATING ENGINEER		HWY	7	45.300	48.300	1.5	1.5	2.0	16.60	11.05	1.900	1.250
ORNAMNTL IRON WORKER		ALL		42.900	45.400	2.0	2.0	2.0	13.11	16.40	0.000	0.600
PAINTER		ALL		40.000	44.750	1.5	1.5	1.5	9.750	11.10	0.000	0.770
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		42.520	44.520	1.5	1.5	2.0	13.29	12.75	0.000	0.630
PIPEFITTER		BLD		46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.680
PLASTERER		BLD		41.250	43.730	1.5	1.5	2.0	11.10	11.69	0.000	0.550
PLUMBER		BLD		46.050	48.050	1.5	1.5	2.0	12.53	10.06	0.000	0.880
ROOFER		BLD		38.950	41.950	1.5	1.5	2.0	8.280	9.190	0.000	0.430
SHEETMETAL WORKER		BLD		41.210	44.510	1.5	1.5	2.0	10.48	19.41	0.000	0.660
SIGN HANGER		BLD		30.210	30.710	1.5	1.5	2.0	4.850	3.030	0.000	0.000
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	10.75	8.850	0.000	0.450
STEEL ERECTOR		ALL		42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350
STONE MASON		BLD		41.580	45.740	1.5	1.5	2.0	9.700	12.80	0.000	1.040
TERRAZZO FINISHER		BLD		36.040	0.000	1.5	1.5	2.0	10.20	9.900	0.000	0.540
TERRAZZO MASON		BLD		39.880	42.880	1.5	1.5	2.0	10.20	11.25	0.000	0.700
TILE MASON		BLD		41.840	45.840	2.0	1.5	2.0	10.20	9.560	0.000	0.880
TRAFFIC SAFETY WRKR		HWY		28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000	0.000
TRUCK DRIVER	E	ALL	1	33.850	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E	ALL	2	34.100	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E	ALL	3	34.300	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E	ALL	4	34.500	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	W	ALL	1	32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000

TRUCK DRIVER	W	ALL	2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TRUCK DRIVER	W	ALL	3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TRUCK DRIVER	W	ALL	4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TUCKPOINTER		BLD		41.950	42.950	1.5	1.5	2.0	8.180	11.78	0.000	0.630

Legend: RG (Region)
TYP (Trade Type - All, Highway, Building, Floating, Oil & Chip, Rivers)
C (Class)
Base (Base Wage Rate)
FRMAN (Foreman Rate)
M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.
OSA (Overtime (OT) is required for every hour worked on Saturday)
OSH (Overtime is required for every hour worked on Sunday and Holidays)
H/W (Health & Welfare Insurance)
Pensn (Pension)
Vac (Vacation)
Trng (Training)

Explanations

COOK COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

TRUCK DRIVERS (WEST) - That part of the county West of Barrington Road.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.
ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS ELECTRICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice sound vision production and reproduction, telephone and telephone interconnect, facsimile, data apparatus, coaxial, fibre optic and wireless equipment, appliances and systems used for the transmission and reception of signals of any nature, business, domestic, commercial, education, entertainment, and residential purposes, including but not limited to, communication and

telephone, electronic and sound equipment, fibre optic and data communication systems, and the performance of any task directly related to such installation or service whether at new or existing sites, such tasks to include the placing of wire and cable and electrical power conduit or other raceway work within the equipment room and pulling wire and/or cable through conduit and the installation of any incidental conduit, such that the employees covered hereby can complete any job in full.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing

endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

TRAFFIC SAFETY

Work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION - EAST & WEST

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by

landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

SPECIAL PROVISION
FOR
ALTERNATE PROPOSAL

The Bidder certified that this bid and the unit prices shown on the schedule of prices are based on performing the work in accordance with "An Act Regulating the Wages of Laborers, Mechanics and other Workers employed under contracts for Public Works" enacted by the 62nd General Assembly and approved June 26, 1941, as amended. Should said "Act" be declared inoperative, void or unconstitutional at any time, either before or after the awarding of the contract for this project, the bidder agrees to perform the work at a reduction of ___0___ per cent, of the unit prices shown on the schedule of prices, it being expressly understood and agreed that the within bid shall be and remain in full force and effect, regardless of whether the said "Act" is declared to be inoperative, void or unconstitutional. The contract for this project is to be awarded on the bases of the unit prices shown on the schedule of prices, and the percentage reduction, if any, act out in this alternative proposal, is to receive no consideration in the award of this contract.

Should the said "Act" be declared inoperative, void or unconstitutional at any time after the awarding of said contract, whether before, during or after the completion of the work, the said contract shall remain in full force and effect, and shall be subject only to said reduction, if any, in the unit prices shown on the schedule of prices.

NOTE: The Bidder shall insert in the first paragraph the percentage which he will reduce his unit prices, if any, in the event the Act is declared inoperable, void or unconstitutional.

ORDINANCE

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BE IT ENACTED BY THE BOARD OF COMMISSIONERS OF THE COUNTY OF COOK, that the Chief Procurement Officer of Cook County shall specify in the call for bids in any contract for public works that such contractors bidding on public works contracts of the County of Cook shall conform to Illinois Compiled Statutes, Chapter 30, Section 560/1 and following, which Act is entitled "An Act" to give preference in the construction of public works projects and improvements to citizens of the United States who have resided in Illinois for one year". The Chief Procurement Officer of Cook County in awarding the contract shall cause to be inserted in the contract a stipulation to the effect that the contractor shall conform to the above cited Illinois Statute.

SPECIAL PROVISION
FOR
RESPONSIBLE BIDDER REQUIREMENT

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The bidder further certifies for work that will be performed by subcontract that each of its subcontractors submitted for approved either (a) is, at the time of such bid, participating in an approved, applicable apprenticeship and training program; or (b) will, prior to commencement of performance of work pursuant to this centered, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Department, at any time before or after award, may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its Subcontractors. Applicable apprenticeship and training programs are those that have been approved and registered with the United Slates Department of Labor. The bidder shall list in the space below, the official name of the program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's forces. Types of work or craft work that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category that does not have an applicable apprenticeship or training program. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed.

CEMENT MASON UNION LOCAL 502
APPRENTICE EDUCATIONAL + TRAINING FUND

IUOE LOCAL 150
SKILL IMPROVEMENT AND APPRENTICE

LABOR TRAINING AND APPRENTICE FUND

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. In order to fulfill this requirement, it shall not be necessary that an applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract.

MINORITY AND WOMEN BUSINESS ENTERPRISES
COOK COUNTY ORDINANCE CHAPTER 34, DIVISION 8, SECTION 34-260 to SECTION 34-300

I. POLICY AND GOALS

A. It is the policy of the County of Cook to prevent discrimination in the award of or participation in County contracts and to eliminate arbitrary barriers for participation, as both prime and sub-contractors, in such contracts by local businesses certified as Minority Business Enterprises (MBE) and Women owned Business Enterprises (WBE). In furtherance of this policy, the Cook County Board of Commissioners has adopted a Minority and Women owned Business Enterprise Ordinance (the "Ordinance") which establishes goals as outlined below:

Contract Type	Goals	
	MBE	WBE
Goods and Services	25%	10%
Construction	24%	10%
Professional Services	35% Overall	

B. **The County may set contract specific goals for each contract, based on the commodities or services specified in this bid document. The MBE/WBE percentages required for this contract are 24% MBE and 10% WBE.** A Bid or Quotation shall be rejected if the County determines that a Bid or Quotation fails to comply with this provision, including but not limited to, commitments to achieve for this contract, the MBE/ WBE goals of the contract amount or to include a Petition for Reduction/Waiver documenting why the goals are not attainable despite the contractor's Good Faith Efforts. A Bid or Quotation may be rejected and a new Bid or Quotation may be solicited if the public interest is served thereby. Unless otherwise specified in the Bid or Quotation Documents, for purposes of this provision, the contract amount is the amount that has been entered on the Proposal page of the Bid or Quotation Documents.

C. Except to the extent that a Bid or Quotation includes a Reduction/Waiver request, the contract MBE and WBE participation goals may be achieved by the Bid or Quotation entities' status as a MBE or WBE; by entering into a joint venture with one or more MBEs and/or WBEs; by subcontracting a portion of the work to one or more MBEs and WBEs; by establishing and carrying out a mentor/protégé agreement; by the Indirect Participation of one or more MBEs and WBEs used by the entity submitting a Bid or Quotation in other aspects of its business; or by any combination of the foregoing so long as the Utilization Plan evidences a commitment to the MBE and WBE contract goals set forth in (B) above.

D. The same Business Enterprise, whether as a contractor, subcontractor or supplier, cannot be utilized as both a MBE and a WBE on the same contract.

E. To the extent that the Ordinance does not apply to this Bid or Quotation, unless specifically waived in the Bid or Quotation Documents, this provision and the wording of the Ordinance shall apply. If there is a conflict between this provision and the Ordinance or the wording of the Ordinance, the Ordinance or its wording controls.

F. A Contractor's failure to carry out its commitments in the course of the Contract's performance shall constitute a material breach of the Contract and if such breach is not appropriately cured, may result in the termination of the Contract or such remedy authorized by the Ordinance as the County deems appropriate.

II. REQUIRED BID OR QUOTATION SUBMITTALS

To be considered responsive, a Bid or Quotation shall meet the MBE and WBE goals by submitting a Utilization Plan with the Bid or Quotation, which shall be (1) supported by Letters of Intent from the MBEs and WBEs together with the MBEs/WBEs **current** Letters of Certification, and/or (2) include a written Petition for Reduction/Waiver with the Bid or Quotation supported by documentation of Good Faith Efforts to meet the goals. Failure to submit the documents set forth in (A) and (B) of this Section II in accordance with these guidelines will cause the Bid or Quotation to be considered non-responsive and shall be cause to reject the Bid or Quotation.

A. MBE/WBE Utilization Plan

Each Bid or Quotation shall include with the Bid or Quotation a complete Utilization Plan. The Utilization Plan shall list the names, mail and email addresses, telephone number and contact persons of businesses intended to be used as MBEs and WBEs on the Contract. If the entity submitting a Bid or Quotation, or any of its subcontractors, suppliers or consultants, are certified MBEs or WBEs they shall be identified as an MBE or WBE within the Utilization Plan.

1. Letter(s) of Intent

Except as set forth below, a Bid or Quotation shall include with its Utilization Plan, Letter(s) of Intent executed by each MBE and WBE included in the Utilization Plan and by the entity submitting the Bid or Quotation, which sets forth that each MBE and WBE intends to perform as a subcontractor, supplier, joint venture partner and/or consultant on the contract. The Letters of Intent must accurately detail the work to be performed by the MBE or WBE firm and the agreed rates and/or prices to be paid. Failure to submit all Letter(s) of Intent as required may result in the Contract Compliance Director's determination that a Bid or Quotation is not responsive and shall be cause to reject the Bid or Quotation.

All commitments made by a Bid or Quotation in its Utilization Plan must conform to those included in the submitted Letter(s) of Intent. The Contract Compliance Administrator reserves the right to request supplemental information regarding the Letter(s) of Intent submitted with a Bid or Quotation and such information shall be furnished. (Reference Economic Disclosure Section for a format sample of a Letter of Intent)

2. Letter(s) of Certification

Only **current** Letters of Certification from one of the following entities may be accepted as certification of MBE/WBE status:

- County of Cook
- City of Chicago (NOTE: firms certified by the City of Chicago in any area other than Construction must complete and submit a Personal Net Worth/Size Standard Affidavit. This form can be downloaded online at www.cookcountyil.gov/contractcompliance)

or any other governmental body or agency approved by the Contract Compliance Director as applying certification standards substantially similar to those applied by the County of Cook may also be accepted.

The Contract Compliance Director retains the right to reject the certification of any MBE or WBE on the ground that it does not meet the County's definition of a MBE or WBE.

3. Joint Venture Affidavit

In the event a Bid or Quotation achieves MBE and/or WBE participation by entering into a Joint Venture, the Bid or Quotation shall include the required Joint Venture Affidavit which can be downloaded online at www.cookcountyil.gov/contractcompliance). Such Joint Venture Affidavit shall be submitted with the Bid or Quotation along with **current** Letter(s) of Certification.

B. Reduction/Waiver Petition

In the event a Bid or Quotation is unable to meet the applicable contract MBE and WBE participation goals, the Bid or Quotation must include a Petition for Reduction/Waiver and submit the Petition with its Bid or Quotation. The Petition for Reduction/Waiver shall be supported with evidence and sufficient documentation to demonstrate the Bid's or Quotation's Good Faith Efforts in attempting to achieve the applicable MBE and WBE goals. Failure to submit a Petition for Reduction of Waiver as required may result in the Contract Compliance Director's determination that a Bid or Quotation is not responsive and shall be cause to reject the Bid or Quotation.

III. REDUCTION/WAIVER OF MBE/MBE GOALS

A. Granting a Reduction/Waiver Request.

1. The determination of the adequacy of the Good Faith Efforts to utilize MBEs and WBEs in a Bid or Quotation will be evaluated on the basis of the actions in attempting to achieve MBE and WBE participation goals set forth in the Bid or Quotation. Examples of actions constituting Good Faith Efforts for a Bid or Quotation are set forth within the Ordinance and in the "Petition for Reduction/Waiver of MBE/WBE Participation Goals" contained in the Bid or Quotation Documents.

2. The Contract Compliance Director may grant the Petition for Reduction/Waiver based upon the following criteria: (a) sufficient qualified MBEs and WBEs capable of providing the goods or services required by the contract are unavailable despite the good faith efforts of the contractor; (b) the specifications and the reasonable and necessary requirements for performing the contract make it impossible or economically infeasible to divide the contract into sufficiently small tasks or quantities to enable the contractor to utilize MBEs and WBEs in accordance with the applicable goals; (c) the price(s) required by any potential MBE or WBE is more that 10% above competitive levels; and (d) any other factor determined to be relevant by the Contract Compliance Director.

B. Denying a Reduction/Waiver Request.

1. If the Contract Compliance Director determines that a Bid or Quotation has not demonstrated adequate Good Faith Efforts to meet the applicable contract MBE and WBE goals, the Contract Compliance Director may deny a Petition for Reduction/Waiver and declare the Bid or Quotation non-responsive and recommend rejection of the Bid or Quotation.

2. Failure to undertake and/or to document adequate Good Faith Efforts shall be cause to deny a Petition for Reduction/Waiver. Determination of the adequacy of a Bid's or Quotation's Good Faith Effort will be evaluated on the basis of the Bid's or Quotation's actions as of the date of the Bid or Quotation opening.

MINORITY AND WOMEN BUSINESS ENTERPRISES
COOK COUNTY ORDINANCE CHAPTER 34, DIVISION 8, SECTION 34-260 to SECTION 34-300

IV. CHANGES IN CONTRACTOR'S UTILIZATION PLAN

A. Contractor, during its performance of the Contract, may not change the MBE or WBE commitments specified in its Utilization Plan, including but not limited to, terminating a MBE or WBE contract, reducing the scope of the work to be performed by a MBE/WBE, or decreasing the price to a MBE/WBE, except as otherwise provided by the Ordinance.

B. Where an enterprise under the Contact was previously considered to be a MBE or WBE but is later found not to be, or work is found not to be creditable toward the MBE or WBE goals as stated in the Utilization Plan, the Contractor shall seek to discharge the disqualified enterprise, upon proper written notification to the Contract Compliance Administrator, and make every effort to identify and engage a qualified MBE or WBE as its replacement. Failure to obtain a MBE or WBE replacement within 30 working days of the Contract Compliance Administrator's written approval of the removal of a MBE or WBE may result in the termination of the contract or the imposition of such remedy authorized by the Ordinance, unless a written Petition for Reduction/Waiver is granted to Contractor allowing Contractor to award the work to a non-MBE or WBE.

V. NON-COMPLIANCE

If the County determines that the Contractor has failed to comply with its contractual commitments or any portion of the Ordinance or this provision, the Contract Compliance Administrator will notify the Contractor of such noncompliance and may take any and all appropriate actions as set forth within the Ordinance.

VI. REPORTING/RECORD-KEEPING REQUIREMENTS

The Contractor is required to comply with the reporting and record-keeping requirements as set forth in the Ordinance and as established by the Contract Compliance Administrator. Upon award of a Contract, Contractor is responsible for acquiring all necessary County reporting and record-keeping forms which will be made available in the Office of Contract Compliance.

VII. EQUAL EMPLOYMENT OPPORTUNITY

Compliance with MBE and WBE requirements will not diminish or supplant Equal Employment Opportunity and Civil Rights provisions as required by law as they relate to contractor and subcontractor obligations.

Any questions regarding this section should be directed to:

Office of Contract Compliance
118 North Clark Street, Room 1020
Chicago, Illinois 60602
(312) 603-5502

COOK COUNTY

DEPARTMENT OF TRANSPORTATION AND HIGHWAYS

SPECIAL PROVISION
FOR
SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES
NONFEDERAL-AID CONTRACTS

1) General

a) The requirements set forth herein shall constitute the specific affirmative action requirements under this contract and supplement the non-discrimination requirements contained elsewhere in this proposal.

b) The contractor will work with the Cook County Department of Transportation and Highways in carrying out Equal Employment Opportunity (EEO) obligations and in their reviews of activities under the contract.

c) The contractor, and all subcontractors holding subcontracts (not including material suppliers) of $10,000.00 or more, will comply with the following minimum specific requirement activities of equal employment opportunity the contractor will include these requirements in every subcontract of $10,000.00 or more with such modification of language as is necessary to make them binding on the subcontractor.

2) Equal Employment Opportunity Policy

The contractor will accept as operating policy the following statement which is designed to further the provision of Equal Employment Opportunity to all persons, and to promote the full realization of equal employment opportunity through a positive continuing program:

"It is the policy of this company to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."

3) Equal Employment Opportunity Officer

The contractor will designate and make known to the Cook County Department of Transportation and Highways contracting officers an EEO officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of Equal Employment Opportunity and who must be assigned adequate authority and responsibility to do so.

4) Dissemination of Policy

a) All members of the contractor's staff who are authorized to hire, supervise, promote and discharge employees, or who recommend such action, or who are substantially involved in such action, will

be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide Equal Employment Opportunity in each grade and classification of employment, to ensure that the above agreement will be met, the following actions will be taken as a minimum:

(1) periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO officer.

(2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO officer, covering all major aspects of the contractor's EEO obligations within thirty (30) days following their reporting for duty with the contractor.

(3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO officer in the contractor's procedures for locating and hiring minority and female employees.

b) In order to make the contractor's EEO policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will take the following actions:

(1) Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

(2) The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5) Recruitment

a) When advertising for employees, the contractor will include in all advertisements for employees the notation: "an Equal Opportunity Employer". All such advertisements will be published in newspapers, or other publications, having a large circulation among minority groups in the area from which the project work force would normally be derived.

b) The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants; including, but not limited to, state employment agencies, schools, colleges and minority and female organizations. To meet this requirement, the contractor will identify sources of potential minority and female employees, and establish with such identified sources procedures whereby minority and female applications may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referral, he is expected to observe the provisions of that agreement to the extend that the system permits the contractor's compliance with eeo contract provisions.

c) The contractor will encourage present employees to refer minority and female applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority and female applicants will be discussed with employees.

6) Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and terminations, will be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a) The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b) The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c) The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d) The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with the obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of the avenues of appeal.

7) Training and Promotion

a) The contractor will assist in locating, qualifying and increasing the skills of minority and female employees and applicants for employment.

b) Consistent with the contractor's work force requirements and as permissible under federal and state regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance.

c) The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d) The contractor will periodically review the training and promotion potential of minority and female employees and will encourage eligible employees to apply for such training and promotion.

Unions

If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use their best efforts to obtain the cooperation of such unions to increase opportunities form minorities and females within the unions and to effect referrals by such unions of minority and female employees. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

e) The contractor will use best efforts to develop, in cooperation with the unions. Joint training programs aimed toward qualifying more minority and female employees for membership in the unions and increasing the skills of minority and female employees so that they may qualify for higher paying employment.

f) The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

g) The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the Cook County Department of Transportation and Highways and shall set forth what efforts have been made to obtain such information.

h) In the event the union is unable to provide the contractor with a reasonable flow of minority and female referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and females. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minorities or female employees). In the event the union referral practice prevents the contractor from meeting the obligations pursuant to these special provisions, such contractor shall immediately notify the Cook County Department of Transportation and Highways.

8) Selection of subcontractors, procurement of materials and leasing of equipment

The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a) The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligation under this contract.

b) Minority and Women Owned Business Enterprises, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use best efforts to solicit bids from and to utilize M/WBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

c) The contractor will use his/her best efforts to ensure subcontractor compliance with their EEO obligations.

9) Records and reports

The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three (3) years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Cook County Department of Transportation and Highways.

a) The records kept by the contractor shall document the following:

(1) The number of minorities, non-minorities and females employed in each work classification on the project.

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and females;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and,

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b) The contractor will submit to the Cook County Department of Transportation and Highways a monthly report every month for the duration of the project, indicating the number of minority, non-minority and female employees currently engaged in each work classification required by contract work and the number of hours worked. This information is to be reported on form SBE-956. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

Notice of requirement for affirmative
Action to ensure equal employment
Opportunity (executive order 11246)

(1) The offeror's or bidder's attention is called to the "equal opportunity clause" and the "standard federal equal employment opportunity construction contract specifications" set forth herein.

(2) The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

APPENDIX A

The following goal for female utilization in each construction craft and trade shall apply to all contractors holding federal and federally assisted construction contracts and subcontracts in excess of $10,000.00. The goal is applicable to the contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally assisted or nonfederally related construction contract or sub contract. Area covered (statewide) goals for women apply nationwide.

Goal	Goal (Percentage)
Female Utilization	6.9

APPENDIX B

Until further notice, the following goals for minority utilization in each construction craft and trade shall apply to all contractors holding federal or federally-assisted construction contracts and subcontracts in excess of $10,000.00 to be performed in the respective geographical areas. The goals are applicable to the contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally-assisted or nonfederally related construction contract or subcontract.

Economic area	Goal (percent)
083 Chicago, IL Smsa Counties: 1600 Chicago, IL - IL - Cook, DuPage, Kane, Lake, Mchenry, Will	19.6

These goals are applicable to all the contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction. The contractor's compliance with executive order and the regulations in 41 cfr part 60-4 shall be based on its implementation of the equal opportunity clause, specific affirmative action obligations required by the provisions and specifications set forth in its federally assisted contracts, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority of female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the executive order and the regulations in 41 cfr part 60-4. Compliance with the goals will be measured against the total work hours performed.

(3) As used in this notice, and in the contract resulting from this solicitation, the "covered area" is the entire state of Illinois for the goal set forth in **Appendix A** and the county or counties in which the work is located for the goals set forth in **Appendix B**.

Standard federal equal employment
Opportunity construction contract
Specifications (executive order 11246)

1) As used in these specifications:

   a) "covered area" means the geographical area described in the solicitation from which this contract resulted;

   b) "director" means director, office of federal contract compliance programs, united states department of labor, or any person to whom the director delegates authority;

   c) "employer identification number" means the federal social security number used on the employer's quarterly federal

      Tax return, U.S. Treasury Department form 941.

   d) "minority" includes:

      i) Black (all persons having origins in any of the black African racial groups not of Hispanic origins);

      ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, central or south American or other Spanish culture or origin, regardless of race);

      iii) Asian and pacific islander (all persons having origins in any of the original peoples of the far east, southeast Asia, the Indian subcontinent, or the pacific islands); and

      iv) American Indian or Alaskan native (all persons having origins in any of the original peoples of north America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2) Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000.00 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3) If the contractor is participating (pursuant to 41 cfr 60-4.5) in a hometown plan approved by the U. S. Department of Labor in the covered area wither individually or through an association, its affirmative action obligations on all work in the plan area (including goals and timetables) shall be in accordance with that plan for those trades which have unions participating in the plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such hometown plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.

4) The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract

resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction

Contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the federal register in notice form, and such notices may be obtained from any office of federal contract compliance programs office or from federal procurement contracting officers. The contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5) Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the contractor's obligations under these specifications, executive order 11246, or the regulations promulgated pursuant thereto.

6) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7) The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

   a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

   b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

   c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the contractor may have taken.

   d) Provide immediate written notification to the director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority

person or woman sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources complied under 7b above.

f) Disseminate the contractor's eeo policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its eeo obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company eeo policy on bulletin boards accessible to all employees at each location where construction work is performed.

g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h) Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's eeo policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship of other training by any recruitment source, the contractor shall send written notifications such as the above, describing the openings, screening procedures, and test to be used in the selection process.

j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k) Validate all tests and other selection requirements here there is an obligation to do so under 41 cfr part 60-3.

l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8) Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community , or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, make a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply however is the contractor's and failure of such a group to fulfill and obligation shall not be a defense for the contractor's noncompliance.

9) A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contract may be in violation of the executive order if a particular group is employed in a substantially disparate manner, (for example, even though the contractor has achieved its goal for women generally, the contractor may be in violation of the executive order if a specified minority group of women is underutilized).

10) The contractor shall not use the goals and timetables of affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11) The contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to executive order 11246.

12) The contractor shall carry out such sanctions and penalties for violation of the specifications and of the equal opportunity clause, including suspension, termination and cancellation of existing subcontracts, as may be imposed or ordered pursuant to executive order 11246, as amended and its implementing regulations, by the office of federal contract compliance programs. Any contractor who fails to carry out sanctions and penalties shall be in violation of these specifications and executive order 11246, as amended.

13) The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the executive order, the implementing regulations, or these specifications, the director shall proceed in accordance with 41 cfr 60-4.8.

14) The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being out, to submit reports relating to provisions hereof as may be required by the government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes of status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15) Nothing herein provided shall be construed as a limitation upon the application of other laws which establish standards of compliance or upon the application requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

SPECIAL PROVISION
FOR
INSURANCE REQUIREMENTS

Within fourteen (14) days of notification of award, the bidder shall, at its cost, procure and maintain insurance with coverages in amounts not less than (i) governing law, (ii) as specified herein, or (iii) as actually maintained by Contractor. The cost to the Contractor for providing this insurance coverage shall be considered as included in the cost of the contract.

Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations under this Contract.

Contractor shall require all Subcontractors to provide the insurance required in this Agreement, or Contractor may provide said coverage for Subcontractors. All Subcontractors are subject to the same insurance requirements as Contractor unless specified otherwise.

The Cook County Department of Risk Management maintains the right to modify, delete, alter or change these requirements.

The Contractor shall maintain insurance as set forth below.

A. Workers Compensation Insurance

In accordance with the Laws of the State of Illinois and including Employer's Liability Insurance with limits not less than the following:

The Workers Compensation policy shall also include the following provisions:

Bodily Injury by accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 policy limit
Bodily Injury by Disease	$1,000,000 each employee

B. Commercial General Liability Insurance

For bodily injury, personal injury and property damage on an occurrence form (ISO Form CG 0001 or equivalent) with limits not less than the following:

Each Occurrence	$1,000,000
General Aggregate per Project	$2,000,000
Products – Completed Operations Aggregate	$2,000,000

i) All Premises and Operations.

ii) Explosion, collapse and underground damage.

iii) Contractual liability for the obligations assumed in the Indemnification and Hold Harmless agreement.

Such policy must contain (i) ISO Additional Insured Endorsements CG 2010 **and** CG 2037 or equivalent, and (ii) severability of interest/separation of insureds' clause. The products and completed operations coverage (including ISO Endorsement CG 2037 or equivalent) must be maintained for a period of two years after final acceptance of the Project.

C. Commercial Automobile Liability Insurance

For bodily injury and property damage arising from the ownership, maintenance or use of owned, hired and non-owned vehicles (ISO Form CA 00 01 or equivalent) with a limit no less than $1,000,000 per accident.

Cook County, its officials and employees shall be listed as additional insureds with respect to operations performed.

D. Excess Liability

Such policy shall be excess over Commercial General Liability, Automobile Liability, and Employer's Liability with limits not less than the following amounts:

Each Occurrence:	$10,000,000
General Aggregate per Project:	$10,000,000

Subcontractors performing work or Services for the Contractor must maintain limits of not less than $5,000,000 with the same terms herein. Cook County, its officials and employees shall be listed as additional insured with respect to operations performed.

E. Contractor's Pollution Liability

Contractor will maintain pollution liability insurance with limits of liability of $1,000,000 each claim and aggregate with a deductible no greater than $100,000 each claim.

The policy will provide coverage for sums the Contractor becomes legally obligated to pay as loss as a result of claims for bodily injury, property damage or clean-up costs caused by a pollution incident. Pollution incidents will include the discharge, dispersal, release or escape of any solid, liquid, gaseous or thermal irritant or contaminant, including but not limited to smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, medical waste, waste materials, lead, asbestos, silica, hydrocarbons and microbial matter.

If the policy is a 'claims made' form or if any coverage under this policy is written as 'claims made', coverage will be maintained for two years after project completion.

Additional Insured

The required insurance policies, with the exception of the Workers Compensation, must name **Cook County, its officials and employees as additional insureds,** with respect to operations performed. The Commercial General Liability policy shall specifically include **ISO Additional Insured Endorsements CG 2010 and CG 2037 or equivalent**. Contractor's insurance shall be primary and non-contributory with any insurance maintained by such additional insureds.

No other form will be accepted without prior approval of the Cook County Department of Transportation and Highways. All liability policies shall entirely delete ISO endorsements CG21 39 10 93 or similar endorsement or policy provision which limit contractual liability.

As part of the provisions and requirement for this project, other entities may be required to be added as an "additional insured" on the liability insurance of the Contractor. The Contractor shall assure these entities are included as additional insureds.

Waiver of Subrogation Endorsements

All insurance policies must contain a Waiver of Subrogation Endorsement in favor of Cook County.

Qualification of Insurers

All insurers must possess an A.M. Best rating of A- VII or better and be authorized to do business in Illinois. The insurance limits required herein may be satisfied by a combination of primary, umbrella and/or excess liability insurance policies. Companies with ratings lower than (A-) or VII will be acceptable only upon written consent of Superintendent of Transportation and Highways. Upon written request from the Superintendent of Transportation and Highways, Contractor must supply certified copies of the required insurance policies within ten (10) days.

Certificates of Insurance

Within fourteen (14) days of notification of award, the Contractor must provide properly completed certificates of insurance on Acord forms which evidence the required insurance. The certificates must specifically list each of the required

additional insureds and specify that Waiver of Subrogation Endorsements apply. The certificates must be accompanied by the required Commercial General Liability ISO Additional Insured Endorsements CG 2010 **and** CG 2037 (or equivalent).

The receipt of any certificate of insurance does not constitute agreement by the County that the insurance requirements have been fully met or that the insurance policies indicated on the certificate of insurance are in compliance with the insurance required above. Coverage shall be in companies subject to approval of the County.

In no event shall any failure of the County to receive certificates of insurance required hereof or to demand receipt of such Certificates of Insurance be construed as a waiver of Contractor's obligations to obtain insurance pursuant to these insurance requirements. The certificates shall also include the following: **The coverage and limits conform to the minimum required by Article 107.27 of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction.**

Notice of Cancellation or Non-Renewal

Contractor shall provide the Superintendent of Highways and Transportation with thirty (30) days advance written notice in the event any required insurance will be cancelled, materially reduced or non-renewed. Contractor shall secure replacement coverage to comply with the stated insurance requirements and provide new certificates of insurance to the Superintendent of Transportation and Highways. .

In the event the insurance is cancelled before the completion of the project, the County shall reserve its rights under the contract, including but not limited to its rights under Article 108.07 of the Standard Specifications For Road and Bridge Construction, to order the job shut down until the Contractor obtains the required insurance in the amounts stated herein or, the County may obtain the coverage required and then shall deduct the appropriate premium cost from the monies due the Contractor.

Property Insurance

Contractor is responsible for all loss or damage to personal property (including materials, equipment, tools and supplies) owned, rented or used by Contractor.

SPECIAL PROVISION
FOR
RAILROAD PROTECTIVE LIABILITY INSURANCE

The contractor will be required to carry Railroad Protective Liability and Property Damage Liability Insurance in accordance with Article 107.11 of the Standard Specifications. The limits under this Special Provision are to be not less than $5,000,000.00 combined single limit per occurrence for bodily injury liability and property damage liability with an aggregate limit of $10,000,000.00 over the life of the policy.

NAMED INSURED	NUMBER AND SPEED OF FREIGHT AND/OR PASSENGER TRAINS
Chicago Transit Authority 567 West Lake Street Chicago, Illinois 60661-1498	196 Passenger (55mph) 0 Freight

For Information contact:

Mr. David Heard
Manager, Construction Oversight
P.O. Box 7598
Chicago, Illinois 60680-7598
312.681.3862
dheard@transitchicago.com

Ms. Tamica Press
Manger, Insurance Control
P.O. Box 7564
Chicago, Illinois 60680-7564
312.681.2734
312.681.2795 fax
tpress@transitchicago.com

Basis of Payment - The costs for providing insurance, as noted above, will be paid for as the contract unit price per lump sum for RAILROAD PROTECTIVE LIABILITY INSURANCE.

Approval of Insurance – Within ten (10) calendar days of notice of award, The **ORIGINAL AND ONE CERTIFIED** copy of each required policy shall be submitted for approval, when applicable.

The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Resident Engineer evidence that the required Railroad Protective Liability Insurance has been approved by the railroads. The Contractor shall also provide the Resident Engineer with the expiration date of each required policy.

SPECIAL PROVISION
FOR
INDEMNIFICATION FOR COOK COUNTY

The Contractor shall indemnify the County of Cook and its commissioners, officials, employees, agents and representatives, and their respective heirs, successors and assigns (the "County") pursuant to the language provided under Section 107.26 of the Standard Specifications for Road and Bridge Construction.

107.26 Indemnification. To the fullest extent permitted by law, the Contractor shall be responsible for any and all injuries to persons or damages to property due to the activities of the Contractor, subcontractors, licensees, invitees, suppliers, agents, or employees arising out of, incident to, or resulting from performance of the contract, or any activity in connection therewith. The Contractor shall indemnify and hold harmless the County of Cook and its commissioners, officials, employees, agents and representatives, and their respective heirs, successors and assigns, from any and all claims, lawsuits, actions, costs, and fees (including reasonable attorney fees and expenses) of every nature or description, arising from, growing out of, or connected with the work, or on account of or in consequence of any neglect in safeguarding the work or on account of or in consequence of using unacceptable materials in constructing the work or because of any act or omission, neglect, or misconduct of the Contractor, its officers, employees, agents, its subcontractor, or subcontractors licensees, invitees, or anyone directly or indirectly employed by them, and/or anyone for whose acts they may be liable or because of any claims or amount recovered by reason of any infringement of any patent, trademark, or copyright or by reason of the violation of any law, ordinance, order or decree. This obligation is binding on the Contractor without regard to whether or not such claim, damage, loss, or expense is caused in part by the act, omission, or negligence of the County and its commissioners, officials, employees, agents and representatives, and their respective heirs, successors and assigns.

In claims against the County by an employee of the Contractor, its officers, employees, agents, its subcontractor, or subcontractors licensees, invitees, or anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification herein shall not be limited by a limitation on amount or type of damages payable by or for the Contractor or subcontractor under any employee benefits act including but not limited to the Worker's Compensation Act.

In the event any such claim, lawsuit, or action is asserted, any such money due the Contractor under and by virtue of the contract as shall be deemed necessary by the County for the payment thereof, may be retained by the County for said purpose, or in case no money or insufficient money is due to satisfy such claim, lawsuit, or action, the Contractor's Surety shall remain liable for any payment therefore until any such lawsuit, action, or claim has been settled or has been fully judicially determined and satisfied.

No inspection by the County, its employees or agents shall be deemed a waiver by the County of full compliance with the requirements of the contract. This indemnification shall not be limited by any Performance Bond or insurance protection required of the Contractor in the contract.

SPECIAL PROVISION
FOR
INDEMNIFICATION FOR LOCALS

Indemnification under Section 107.26 of the Standard Specifications for Road and Bridge Construction is hereby extended to provide same for the following entities: Village of Lincolnwood, Village of Skokie, and the Chicago Transit Authority, their officers, employees and agents in the same manner as is applicable to Cook County.

SPECIAL PROVISION
FOR
JOINT VENTURES

Contractors submitting a bid as a joint venture shall comply with the following procedures:

1) Contractors may combine their available bidding capacity for a single contract to bid as a joint venture.

2) The joint venture shall be indicated by the filing of a ***Joint Venture Minimum Declaration of Work*** for each of the contracts for which joint venture approval is sought. It identifies the managing partner and indicated the kind and the percentage of work to be performed by each joint venture partner with its own workforce and resources other than work reserved to meet any disadvantage business goal advertised in the contract. The form indicated the joint venture agreement shall be included in the bid. In addition, each joint venture partner firm shall submit an ***Affidavit of Availability***. The ***Joint Venture Minimum Declaration of Work*** and all ***Affidavits of Availability*** **must be included in the bid.** The proposed joint venture shall not be approved if the establishment of a joint venture would unduly restrict competition. A determination that a proposed venture would unduly restrict competition is limited to any of the following reasons:

   a) That the proposed joint venture would consist of more than three (3) qualified contractors.

   b) That the ***Joint Venture Minimum Declaration of Work*** indicated that any one of the proposed joint ventures partners will perform less than ten percent of the non-disadvantage business work with its own workforce and resources.

   c) That for letting items estimates by the Department to be bid at less than $1,000,000.00 more than one of the proposed joint venture partners has the individual qualification ratings and bid the item without the approval of the venture. This determination shall not apply to joint ventures between firms having fifty-one percent or more common controlling ownership or on items where the estimated quantity of asphalt exceeds 10,000 tons or concrete exceeds 5,000 cubic yards. Each proposed joint venture shall submit, with the bid, a ***Joint Venture Certificate of Explanation and Justification*** for each of the contracts estimated at less than $1,000,000.00 for which joint venture approval is sought. The form indicated the circumstances which apply to the joint venture. That is there fifty-one percent (51%) or more common controlling ownership, or does one or more parties to the joint venture not have the financial capacity, work capacity or work categories to complete the project. The ***Joint Venture Certificate of Explanation*** **must be included in the bid.**

3) Contractors whose financial ratings are based upon unaudited financial statements will not be permitted to joint venture with each other to bid contracts which are estimated to exceed $350,000.00. However, such contractors may be permitted to joint venture with contractors who have a financial rating based upon an audited statement to bid contracts estimated to exceed $350,000.00.

4) If a joint venture work rating is limited by its maximum financial rating, the full value of the computed work rating will be used in analyzing the joint venture approval request. However, the combined maximum work rating in any category shall not exceed the combined maximum financial rating of the joint venture.

5) If an approved joint venture is awarded a contract, the kind and percentage of work indicated on the ***Joint Venture Minimum Declaration of Work*** may be amended as many times as necessary by the contractor provided that each partner of the approved joint venture performs at least ten percent of the nondisadvantaged work with its own workforce and resources.

Copies of all required Joint Venture Forms are attached.

Please note that signed and notarized originals of all required Joint Venture Forms mentioned above **must be included in the bid.** This includes ***Affidavits of Availability*** for all parties to the joint venture.

JOINT VENTURE FORMS

Qualified contractors wishing to combine bidding capacity and bid items as joint ventures must submit the appropriate properly completed forms and include them in their bid. The required joint venture forms include: (1) the ORIGINAL *Affidavit of Availability* (BC 57); (2) the ORIGINAL *Joint Venture Minimum Declaration of Work*; and (3) the ORIGINAL *Joint Venture Certificate of Explanation and Justification*.

COOK COUNTY DEPARTMENT OF TRANSPORTATION
AND HIGHWAYS
Joint Venture Certificate of Explanation & Justification

Bid Proposal Submission Date: _____
Item No.: _____
Joint Venture Name: _____
Managing Party: _____

Firm #1

Name: _____

Address: _____

Firm #2

Name: _____

Address:- _____

Firm #3

Name: _____

Address: _____

Instructions:

Indicate the circumstances which apply to the Joint Venture.

1) One or more firms do not have the required financial capacity.

Firm #1 Firm #2 Firm #3

Does not have sufficient available prequalification financial rating to perform the work.

2) One or more firms do not have the required work capacity.

Firm #1 Firm #2 Firm #3

Does not have sufficient available prequalification work ratings to perform fifty percent of the work.

3) One or more firms do not perform work in a majority of work categories required to complete the project.

Work categories not performed by the firm:

Firm #1 _____

Firm #2 _____

Firm #3 _____

4) Fifty-one percent (51%) common controlling ownership between firms.

Firm #1 Firm #2 Firm #3

has attached statement indicating the relationship of the firms.

5) Estimated quantity of asphalt for this item exceeds 10,000 tons.

6) Estimated quantity of concrete exceeds 5,000 cubic yards.

7) Estimated costs of project are less than $1,000,000.

_____

I/WE being duly sworn do hereby declare the explanation and justification to be a true and correct statement.

I, WE being duly sworn, do hereby declare the explanation and justification to be a true and correct statement.

Firm #1

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director)

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

Firm #2

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director)

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

Firm #3

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

This form must be submitted with the bid.

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
Joint Venture Minimum Declaration of Work

Bid Proposal Submission Date: _____
Item No.: _____
Joint Venture Name: _____
Managing Party: _____

Firm #1

Name: _____

Address: _____

Firm #2

Name: _____

Address: _____

Firm #3

Name: _____

Address: _____

Instructions:

Indicate the percentage of work to be performed by each firm with their own forces.

	Firm #1	Firm #2	Firm #3
Earthwork	_____	_____	_____
Portland Cement Concrete Paving	_____	_____	_____
Bituminous Plant Mix	_____	_____	_____
Bituminous Aggregate Mixtures	_____	_____	_____
Miscellaneous Bituminous Paving	_____	_____	_____
Cleaning and Sealing Cracks & Joints	_____	_____	_____
Soil Stabilization and Modification	_____	_____	_____
Aggregate Bases and Surfaces	_____	_____	_____
Highway, Railroad & Waterway Structures	_____	_____	_____
Drainage	_____	_____	_____
Electrical	_____	_____	_____
Cover & Seal Coats	_____	_____	_____
Slurry Applications	_____	_____	_____
Miscellaneous Concrete Construction	_____	_____	_____
Landscaping	_____	_____	_____
Seeding & Sodding	_____	_____	_____
Vegetation Spraying	_____	_____	_____
Tree Trimming & Selective Tree Removal	_____	_____	_____

Fencing	_____	_____	_____
Guardrail	_____	_____	_____
Grouting	_____	_____	_____
Painting	_____	_____	_____
Signing	_____	_____	_____
Paint Pavement Marking	_____	_____	_____
Thermoplastic Pavement Marking	_____	_____	_____
Epoxy Pavement Marking	_____	_____	_____
Installation of Raised Pavement Markers	_____	_____	_____
Pavement Texturing & Surface Removal	_____	_____	_____
Cold Milling, Planning & Rototilling	_____	_____	_____
Erection	_____	_____	_____
Demolition	_____	_____	_____
Other	_____	_____	_____

I, WE being duly swom, do hereby declare the explanation and justification to be a true and correct statement.

Firm #1

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director)

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

Firm #2

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director)

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

Firm #3

Name _____ Title _____
(Print)

_____
Signature (Proprietor, Partner, Officer or Director

Subscribed and sworn to before me this _____ day of _____, 20 ___. (Notary Seal)

_____ My commission expires on _____
Notary Public

This form must be submitted with the bid.

SPECIAL PROVISION
FOR
PROPOSAL AGREEMENTS
ADDENDUM RECEIPT

The receipt of the following addenda to the drawings and/or specification is acknowledged:

Addendum No. 1
Dated OCTOBER 16, 2013

Addendum No. 2
Dated OCTOBER 24, 2013

Addendum No. _____
Dated _____

Addendum No. _____
Dated _____

Addendum No. _____
Dated _____

NOTE: These Addenda form a part of the Bidding and Contract Documents and modify the Original Documents for this Contract. Receipt of these Addenda shall be acknowledged above. Failure to do so may subject the Bidder to disqualification.

SPECIAL PROVISION
FOR
COMBINATION BIDDING PROCESS

All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Cook County Department of Transportation and Highways.

Combination Bids. The projects listed below with their individual WORKING DAYS and CALENDAR DAYS shall be let in combination:

PROJECT	SECTION	WORKING DAYS	CALENDAR DAYS

A Combination Bid is a total bid received on 2 or more proposals. No Combination Bids other than those specifically set up by the Department will be considered. Separate proposal forms will be issued for each project in the combination so bids may be submitted on the combination as well as on separate units of the combination. The department reserves the right to make the awards on combination bids or separate bids to the best advantage of the Department.

If a Combination Bid is submitted on 2 or more proposals, separate proposals on each individual contract shall also be submitted, and unless separate proposals are submitted, the Combination Bid will not be considered. If the bidder desires to submit a Combination bid, the bidder shall state, in the place provided in the proposal form, the amount of the Combination Bid for the entire combination.

If a Combination Bid is submitted on any stipulated combination, and errors are found to exist in computing the gross sum bid on any one or more of the individual proposals, corrections shall be made, by the Department and the amount of the Combination Bid shall be corrected so that it will be in the same proportion to the sum of the corrected gross sum bid as the Combination Bid submitted was to the sum of the gross bid submitted.

The following provisions shall govern combination bidding:

1) A Combination Bid which is submitted for 2 or more proposals and awarded on that basis shall have the bid prorated against each proposal in proportion to the bid submitted for each proposal.

2) Separate contracts shall be executed for each proposal included in the combination.

3) The proposal guaranties which accompany the individual proposals making up the combination will be considered as also covering the Combination Bid.

4) The completion date for all contracts awarded on a Combination Bid shall be the latest completion date designated for any one or more of the contracts included in the combination, unless otherwise provided in the contract.

SPECIAL PROVISION
FOR
PROPOSAL AGREEMENTS
ADDENDUM RECEIPT

The receipt of the following addenda to the drawings and/or specification is acknowledged:

Addendum No._____
Dated _____

Addendum No._____
Dated _____

Addendum No._____
Dated _____

Addendum No._____
Dated _____

Addendum No._____
Dated _____

NOTE: These Addenda form a part of the Bidding and Contract Documents and modify the Original Documents for this Contract. Receipt of these Addenda shall be acknowledged above. Failure to do so may subject the Bidder to disqualification.

5) Contracts awarded in combination for the projects above shall have the WORKING DAYS revised to _____WORKING DAYS, and the CALENDAR DAYS revised to _____CALENDAR DAYS. The "Daily deduction" rate in the Traffic Control Deficiency Deduction Special Provision shall be based on the REVISED CALENDAR DAYS stated above.

6) The Contractor, at his option, may start one project or all projects. WORKING DAYS then shall start as specified in Article 108.04 of the Standard Specifications for Road and Bridge Construction and shall continue from that day forward until all projects are completed.

7) An extension of time for any one or more contracts awarded on a Combination Bid shall automatically extend all contracts awarded on the combination.

8) In the event the Contractor fails to complete any one or all the contracts on the Combination Bid by the contract completion date plus any authorized extension, or the contract working days plus any authorized extension, the liquidated damages shall be determined from the schedule of deductions for each day of the overrun in the contract time in Article 108.09 in the Standard Specifications for Road and Bridge Construction, based on the Combination Bid total, and shall be computed on the combination and prorated against the 2 or more individual contracts based on the dollar value of each contract.

9) The Plans and Special Provisions for each separate contract shall be construed separately for all requirements, except as described in section 1 through 8 listed above.

SPECIAL PROVISION
FOR
PROMPT PAY MECHANISMS (NON FEDERAL AID)

This contract is subject to the following payment obligations:

"As partial payments are made to the contractor in accordance with Article 109.07 of the Standard Specifications for Road and Bridge Construction, the contractor shall make corresponding partial payment within fifteen (15) calendar days to each subcontractor in proportion to the work satisfactorily completed by each subcontractor. The proportionate amount of partial payment due to each subcontractor shall be determined by the quantities measured or otherwise determined as eligible for payment by the Cook County Department of Transportation and Highways included in the partial payment to the contractor. Subcontractors shall be paid in full, including the return of any retainage previously withheld, within fifteen (15) calendar days after the subcontractor's work has been satisfactorily completed."

This Special Provision does not create any rights in favor of any subcontractor against the County of Cook or authorize any cause of action against the County of Cook on account of any payment, nonpayment, delayed payment or interest claimed by application of this Prompt Payment Special Provision. The Cook County Department of Transportation and Highways will neither determine the reasonableness of any cause for delay of payment nor enforce any claim to payment, including interest. Moreover, the Cook County Department of Transportation and Highways will not approve any delay or postponement of the fifteen (15) day requirement. State law creates remedies available to any subcontractor or material supplier, regardless of tier, who has not been paid for work properly, performed or material furnished. These remedies are lien against public funds set forth in Section 23© of the Mechanics Lien Act, 770 ILCS 60/23©, and a recovery on the contractors payment bond in accordance with the Public Construction Bond Act, 30 ILCS 550.

SPECIAL PROVISION
FOR
CONTRACT CLAIMS

All References to Sections or Articles in this specification shall be construed to mean specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Cook County Department of Transportation and Highways.

109.09 Contract Claims. Revise the second sentence of subparagraph (a) of Article 109.09 to read:

"All claims shall be submitted to the Engineer."

Revise subparagraph (e) of this Article to read:

"Procedure. The department provides three administrative levels for claims review:

Level I	Resident Engineer
Level II	Bureau Chief, Construction Bureau
Level III	Superintendent of Transportation and Highways

All Claims shall first be submitted at Level I. This Engineer shall consider all information submitted with the claim within 90 days after receipt. Claims not conforming to this Article will be returned without consideration. The Resident Engineer may schedule a claim presentation meeting if in the Resident Engineer's judgment such a meeting would aid in resolution of the claim, otherwise a decision will be based on the claim documentation submitted. If a decision is not rendered within 90 days, or if the Contractor disputes the decision, an appeal to Level II shall be made by the Contractor. An appeal to Level II shall be made by the Contractor in writing to the Resident Engineer within 45 days after the date of the Level I decision, and shall include two (2) additional copies of the claim and supporting documentation. Review of the claim at Level II shall be conducted as a full evaluation of the claim. A claim presentation meeting may be schedule if the Bureau Chief, Construction Bureau determines that such a meeting would aid in the resolution of the claim, otherwise a decision will be made on the claim documentation submitted. If a Level II decision is not rendered within 90 days after receipt of the written appeal, or if the Contractor disputes the decision, an appeal at Level III shall be made in writing to the Bureau Chief, Construction Bureau, within 45 days of the date of the Level II decision. Review of the claim at Level III shall be conducted as a full evaluation of the claim. A claim presentation meeting may be scheduled if the Superintendent of Transportation and Highways determines that such a meeting would aid in resolution of the claim, other a decision will be based on the claim documentation submitted. A Level III final decision will be rendered within 90 days of receipt for appeal.

SPECIAL PROVISION

FOR

PRE-CONSTRUCTION CONFERENCE

After the award of the contract and before construction is started, a conference shall be held at a time and place to be designated by the County.

The purpose of the conference shall be to co-ordinate the work to be performed and adopt a schedule of operations.

The conference will be attended by representatives of the participating agencies together with the public and private agencies whose facilities are involved in the construction of the project.

SPECIAL PROVISION
FOR
CONTRACT EXTRA WORK

Description: Due to the nature of the project, the County may require extra work consisting of various items to be completed by the Contractor where the exact scope of work could not be determined at time of submittal of the bid. In order to avoid project delays or issues related to payment for such extra work, the schedule of quantities includes a Contract Extra Work item.

All work to be performed under this item shall be as directed by the Engineer and approved by the Superintendent and the Cook County Chief Procurement Officer or her designee.

Measurement: Each one dollar of extra work value will be measured as one unit.

Basis of Payment: Payment for this work will be made as specified in Article 109.04 of the Standard Specifications for Road and Bridge Construction and paid as Contract Extra Work in accordance with the requirements set forth in the Special Provision for Processing of Extra Work Payment Requests.

SPECIAL PROVISION
FOR
CONSTRUCTION AIR QUALITY
DIESEL VEHICLE EMISSIONS CONTROL
(GREEN CONSTRUCTION ORDINANCE)

Description. Diesel Vehicle Emissions Control. The reduction of construction air emissions shall be accomplished by using cleaner burning diesel fuel. All equipment on the jobsite as defined by section 30-952 (a) of the Cook County Green Construction Ordinance (ORDINANCE) shall be required to use Ultra Low Sulfur Diesel fuel (ULSD) exclusively (15 ppm sulfur content or less). Equipment shall include any "rental" equipment. In addition, the Contractor is required to comply with section 30-954 -3(c) related to engine idling.

Diesel powered equipment in non-compliance will not be allowed to be used on the project site, and is also subject to adjudication in accordance with the attached Ordinance. Liquidated damages as per section 30-955 (c) of the ORDINANCE will not apply until such time as the level 2 or 3 controls are phased in.

The Contractor is required to submit a list of equipment to be used on the project to the Cook County Department of Environmental Control (DEPARTMENT), as stated in section 30-954(a) and (b) of the ORDINANCE, and shall copy the Cook County Department of Transportation and Highways - Construction Bureau on that submittal. The 30 day submittal stipulation cited in section 30-954(a) of the ORDINANCE will be enforced. The Contractor may not begin work on the project unless acknowledgement by the DEPARTMENT of their receipt of the list is provided to the Construction Bureau of the Cook County Department of Transportation and Highways. At this time, the list will be used for statistical data only. The Contractor is not required to meet portions of the ordinance related to level 2 or 3 controls as outlined in the ORDINANCE until such time as stipulated in the ordinance. If additional equipment is to be used on a project that was not on the original equipment list submitted to the DEPARTMENT, the Contractor must follow the same procedure as outlined above. Short term usage of equipment shall be as stated in section 30-952(3)(c)(1) of the ORDINANCE.

The Contractor shall submit copies of monthly summary reports to the DEPARTMENT and include certified copies of the ULSD fuel delivery slips for diesel fuel delivered to the jobsite for the reporting time period, noting the quantity of diesel fuel used.

The ORDINANCE is attached and made a part of this contract. Contact information for the Department of Environmental Control is given below.

Basis of Payment. Any costs associated with compliance with this special provision and the Green Construction Ordinance shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed.

Cook County Department of Environmental Control
69 West Washington Street Room 1900
Chicago, IL 60602
Re: Cook County Green Construction Ordinance
Phone: 312-603-8200

09-0-36

ORDINANCE

Sponsored by

THE HONORABLE TODD H. STROGER, PRESIDENT

AND ROBERTO MALDONADO, JOAN PATRICIA MURPHY AND PETER N. SILVESTRI

COUNTY COMMISSIONERS

Co-Sponsored by

THE HONORABLE JOHN P. DALEY, ELIZABETH "LIZ" DOODY GORMAN,

JOSEPH MARIO MORENO, DEBORAH SIMS, ROBERT B. STEELE

AND LARRY SUFFREDIN, COUNTY COMMISSIONERS

COOK COUNTY GREEN CONSTRUCTION ORDINANCE

BE IT ORDAINED, by the Cook County Board of Commissioners that Chapter 30 Environment, Article IX Green Construction, Sections 30-950 through 30-955 of the Cook County Code is hereby enacted as follows:

ARTICLE IX. GREEN CONSTRUCTION

Sec. 30-950. Board of Commissioners findings.

a) Diesel exhaust particle pollution poses a clear and present health risk to the people of Cook County. The United States Environmental Protection Agency has classified diesel exhaust as a likely human carcinogen, and has identified diesel particulate matter and diesel exhaust organic gases as toxic air pollutants. Diesel exhaust is also a prime contributor to airborne fine particle pollution that is linked to premature death and other serious cardiovascular and pulmonary problems such as heart attacks, abnormal heart rhythms, atherosclerosis, stroke, asthma attacks, permanent respiratory damage and retardation of lung growth in children.

b) Cook County is a USEPA designated non-attainment area for fine particulate matter pollution.

c) The health impacts from diesel emissions particularly affect children, the elderly, and people with weakened immune systems.

d) Particularly high concentrations of diesel emissions often occur in heavily traveled transportation corridors, intermodal yards, bus depots, and construction sites; these diesel "hot spots" often are found in densely populated, urban areas, disproportionately impacting ethnic minorities and people of lower economic status.

e) Diesel engine crankcases also are a source of emissions that can seep into the cabin and expose vehicle drivers and passengers to harmful diesel emissions.

f) Diesel exhaust also contains black carbon emissions, which contribute to global climate change.

g) Reduction of diesel emissions can help address these human health and environmental problems.

h) The United States Environmental Protection Agency has enacted requirements over the past few yeas requiring the substantial reduction of emissions from new diesel engines in both heavy duty highway vehicles and land-based non-road equipment. However, these regulations do not apply to any of the over 11 million existing diesel engines in the United States, most of which emit substantially more pollution and often remain in service for 10 to 30 years, depending on the type of engine and equipment.

i) Practical, cost-effective measures to substantially reduce diesel particulate emissions are available today, and can be applied to many existing diesel engines. The same technology that limits diesel pollution from new diesel engines can be retrofitted onto existing engines or applied in new replacement engines to reduce diesel emissions by 85% or better.

j) Therefore, the purpose of this ordinance is to minimize the public health risks from exposure to diesel particulate emissions as expeditiously as practicable.

Sec. 30-951. Definitions.

CARB means the California Air Resources Board.

County, as used in this chapter (with the exception of the use of the words to describe or identify the Government or Board of Commissioners thereof), means all of the territory in the County exclusive of the City of Chicago.

Department means the Cook County Department of Environmental Control.

Fleet means one or more diesel vehicles or mobile or stationary diesel engines owned or operated by the same person or group of related persons.

Heavy duty diesel vehicle means a motor vehicle with a gross vehicle weight rating of at least 8,500 pounds that is powered by a diesel engine.

Level 1 Control means a Verified Diesel Emission Control Device that achieves a particulate matter (PM) emission reduction of 25% or more from uncontrolled engine emission levels.

Level 2 Control means a Verified Diesel Emission Control Device that achieves a particulate matter (PM) emission reduction of 50% or more from uncontrolled engine emission levels.

Level 3 Control means a Verified Diesel Emission Control Device that achieves a particulate matter (PM) emission reduction of 85% or more from uncontrolled engine emission levels, or that reduces emissions to less than or equal to 0.01 grams of PM per brake horsepower-hour. Level 3 Control includes repowering or replacing the existing diesel engine with an engine meeting USE PA's 2007 Heavy-duty Highway Diesel

Standards (66 Fed. Reg. 5002), or in the case of a non-road engine, an engine meeting the USE PA's Tier 4 Nonroad Diesel Standards (69 Fed. Reg. 38958); Level 3 Control also includes new diesel engines meeting said emissions standards.

Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway, including an on-road diesel vehicle.

Nonroad engine means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not a stationary source, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

Nonroad Vehicle means a vehicle or equipment that is powered by a nonroad engine, fifty horsepower and greater, and that is not a motor vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers and similar equipment; non-road vehicles do not include locomotives or marine vessels.

Prime Contractor means any person or business entity that enters into a public works contract with Cook County.

Public Works Contract means a contract, budgeted at $2,000,000 or more, with a County agency for a construction program or project bid by Cook County involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; a contract with a County agency for the preparation for any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; or a contract with a County agency for any final work involved in the completion of any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge.

Stationary Generators means a non-mobile machine that uses diesel fuel to produce electrical energy.

Subcontractor means any person or business entity that enters into a contract with a Prime Contractor as defined herein to perform work on a public works contract with Cook County.

Ultra low sulfur diesel fuel means diesel fuel that has a sulfur content of no more than fifteen parts per million.

US EPA means the United States Environmental Protection Agency.

Verified diesel emission control device means:

a) an emission control device or strategy that has been verified to achieve a specified diesel PM reduction by US EPA or CARB; or

b) replacement or repowering with an engine that is certified to specific PM emissions performance by USE PA or CARB.

Sec. 30-952. Emission reduction.

a) Immediately after the effective date of this ordinance, any solicitation for a public works contract and any contract entered into as a result of such solicitation shall include a specification that all contractors in the performance of such contract shall use Ultra Low Sulfur Diesel fuel for diesel motor vehicles, nonroad vehicles, and stationary generators used in the performance of the contract.

b) Beginning January 1, 2 014, for Prime Contractors, and beginning January 1, 2016 for Subcontractors, any solicitation for a public works contract and any contract entered into as a result of such solicitation shall include a specification that a Prime Contractor and all Subcontractors in the performance of such contract shall not operate any heavy-duty diesel vehicle in the performance of a public works contract unless that vehicle has installed Level 3 Controls and unless such controls are properly maintained and operating (as provided by regulations promulgated pursuant to this act). Except that, upon provision by the Prime Contractor or Subcontractors to the agency of appropriate and sufficient documentary evidence:

   (1) Subsection (b) shall not apply to any heavy-duty diesel vehicle on the construction site working three days or less over the life of the project.

   (2) Subsection (b) shall not apply to any heavy-duty diesel vehicle with respect to which the Department makes a written finding that such vehicle cannot be retrofit with Level 3 Controls, in which case such fleet owner or operator shall install Level 2 Controls that are available and appropriate for such vehicle as determined by the Department. If the Department makes a written finding that any such vehicle cannot be retrofit with Level 2 controls, said vehicle shall be retrofit with Level 1 Controls that are available and appropriate for such vehicle as determined by the Department.

   (3) Any heavy-duty diesel vehicle that has operational Level 2 Controls installed prior to the effective date of this act shall have an additional one year to meet the requirements of Subsection (b).

c) Within two years after the effective date of this ordinance, any solicitation for a public works contract and any contract entered into as a result of such solicitation shall include a specification that all contractors in the performance of such contract shall not operate any diesel nonroad vehicle in the performance of a public works contract unless that vehicle has installed Level 2 Controls and unless such controls are properly maintained and operating (as provided by regulations promulgated pursuant to this act). Except that, upon provision by the contract or to the agency of appropriate and sufficient documentary evidence:

   (1) Subsection (c) shall not apply to any diesel nonroad vehicle on the construction site working three days or less over the life of the project.

   (2) Subsection (c) shall not apply to any diesel nonroad vehicle with respect to which the Department makes a written finding that such vehicle cannot be retrofit with Level 2 Controls, in which case such fleet owner or operator shall install Level 1 Controls that are available and appropriate for such vehicle as determined by the Department.

(3) Any diesel nonroad vehicle that has operational Level 1 Controls installed prior to the effective date of this act shall have an additional one year to meet the requirements of Subsection (c).

d) Beginning January 1, 2014, for Prime Contractors, and beginning January 1, 2016 for Subcontractors, any solicitation for a public works contract and any contract entered into as a result of such solicitation shall include a specification that a Prime Contractor and all Subcontractors in the performance of such contract shall not operate any diesel nonroad vehicle in the performance of a public works contract unless that vehicle has installed Level 3 Controls and unless such controls are properly maintained and operating (as provided by regulations promulgated pursuant to this act). Except that, upon provision by the Prime Contractor or Subcontractors to the agency of appropriate and sufficient documentary evidence:

(1) Subsection (d) shall not apply to any diesel nonroad vehicle on the construction site working three days or less over the life of the project.

(2) Subsection (d) shall not apply to any diesel nonroad vehicle with respect to which the Department makes a written finding that such vehicle cannot be retrofit with Level 3 Controls, in which case such fleet owner or operator shall install Level 2 Controls that are available and appropriate for such vehicle as determined by the Department.

(3) Any diesel nonroad vehicle that has operational Level 2 Controls installed prior to the effective date of this act shall have an additional one year to meet the requirements of Subsection (d).

Sec. 30-953. Costs.

All costs associated with meeting these requirements are incidental to the overall contract. No additional time or monies will be granted to the Prime Contractor for compliance with these requirements and any associated regulations.

Sec. 30-954. Compliance.

a) Thirty days before beginning work, the Prime Contractor shall submit to the Department for approval a list of all heavy-duty diesel vehicles, nonroad vehicles, and stationary generators to be used on the project. The list shall include the following:

(1) Prime Contractor and Subcontractor name and address, plus contact person responsible for the vehicles or equipment.

(2) Equipment type, manufacturer, engine model year, engine certification (Tier rating), ECM calibration, horsepower, plate, serial number, and expected fuel usage and/or hours of operation.

(3) For the pollution control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date.

b) If the Prime Contractor subsequently needs to bring on site equipment not on the list, the Prime Contractor shall submit the request in writing for prior approval. Additional equipment shall comply with all contract conditions.

c) During periods of inactivity, idling of diesel on road motor vehicles and nonroad vehicles shall be minimized and shall not exceed the time allowed under state and local laws.

d) Any public works contract shall provide for enforcement of the contract provisions required by Section 3 and penalties for noncompliance of such provisions.

Sec. 30-955. Enforcement.

a) Any solicitation for a public works contract subject to the provisions of this section and any contract entered into as a result of such solicitation shall include provisions authorizing independent monitoring and inspection of the Prime Contractor and Subcontractor's compliance with the requirements of this section and requiring that the Prime Contractor and Subcontractor comply with this section. The Prime Contractor shall be liable for a fee of $200 for the review of Prime Contractor and Subcontractor's compliance with the provisions of this section, and the County may withhold and deduct the fee from monies otherwise due the Prime Contractor.

b) All vehicles and equipment to which these requirements are applicable will be subject to random inspections to ensure full compliance with these requirements. If any equipment is found to be non-compliant, the Prime Contractor, Subcontractor or Supplier must remove or retrofit this equipment or vehicle within 24 hours or be subject to liquidated damages pursuant to subdivision (c) of this section until that piece of equipment or vehicle is removed from Project.

c) In the event of a violation of any provision of this section, except as provided, in subdivision (d) of this section, liquidated damages shall be assessed against the Prime Contractor in the amount of $5,000 for each violation (with each piece of noncomplying equipment and each day of noncompliance being a separate violation, not to exceed a total of $50,000 for any one piece of equipment). Said liquidated damages are not imposed as a penalty but as an estimate of the damages that the County will sustain from delay in completion of the work, as well as resultant damages to public health of its citizens, which damages by their nature are not capable of precise proof. The County may withhold and deduct from monies otherwise due the Prime Contractor the amount of liquidated damages due the County.

d) No Prime Contractor or Subcontractor shall make a false statement or claim with respect to any matter material to compliance with the provisions of this section to the County. Any Prime Contractor or Subcontractor making such a false statement shall pay the County up to $10,000 for each such statement as liquidated damages pursuant to the provisions of subdivision (c) of this section.

e) Fees and liquidated damages paid to the County under this section shall be placed in the Cook County Environmental Management Fund.

Sec. 30-956. Regulations.

Within six months of the effective date of this act, the Department shall, after written notice and public hearing, promulgate regulations implementing the provisions of this act.

Effective date: This Ordinance shall take effect upon adoption.

Approved and adopted this 19th day of May 2009.

TODD H. STROGER, President

Cook County Board of Commissioners

Attest: DAVID ORR, County Clerk.

SPECIAL PROVISION
FOR
PROCESSING OF EXTRA WORK PAYMENT REQUESTS

Contractor's payment requests for Extra Work as identified in Article 104.02 of the Standard Specifications and the Special Provision for Contract Extra Work shall be processed in accordance with Article 109.04 of the Standard Specifications and the following additional procedures:

1) Contractor shall invoice the County for such Extra Work in accordance with the lump sum price, unit price, or force account as agreed to by the Engineer and Contractor.

2) Force account billing for equipment expense shall follow the applicable volume of the Equipment Watch Rental Rate Blue Book (Blue Book). Determination of equipment rates shall follow the IDOT Construction Memorandum 08-09. Also, a copy of the Blue Book calculation for each piece of equipment shall be included with the force account billing.

3) Contractor shall submit invoice for such Extra Work after the Extra Work has been fully completed by Contractor within sixty (60) days of completion of the work.

4) Within sixty (60) days after receipt of the invoice, the Engineer will review the Contractor's invoice and determine whether the invoice complies with the above. If the Engineer disapproves the invoice, the Engineer shall give Contractor notice of the reasons for such disapproval and the Contractor shall resubmit a corrected invoice for the Engineer's review. The County shall have an additional thirty (30) days to review and determine whether that the corrected invoice complies with the above.

5) Once the Engineer determines that the invoice complies with the above, the Engineer shall present a recommendation for change in plan for the specific items of extra work. The Superintendent shall execute a change order for the specific items of extra work and submit such change order to the Cook County Chief Procurement Officer, or where appropriate, to the County Board for approval.

6) Within thirty (30) days of the Board's or the Cook County Chief Procurement Officer's approval of the change order, payment shall be reflected under the specific items of extra work completed by the Contractor and the corresponding amount shall be deleted from the Contract Extra Work item.

SPECIAL PROVISION
FOR
CONSTRUCTION LAYOUT STAKES AND SURVEY CONTROL POINTS

This Special Provision amends the provisions of the Standard Specifications for Road and Bridge Construction and shall amend or supercede the provisions of Article 105.09 Survey Control Points.

105.09 Construction Layout Stakes. The Contractor will be required to furnish and place construction layout stakes for this project and will locate and reference the centerline of survey and all intersecting roads and streets and will establish bench marks along the line of the improvement outside construction limits. One bench mark will be established for use at each structure over twenty-foot span. Locating and referencing the centerline of survey shall consist of locating and referencing control points such as point of curvature, point of tangent, and sufficient points on tangent to provide a line of sight. Control points shall be identified in the field to the Engineer and the field notes shall be kept in the office of the Resident Engineer.

The Contractor shall provide field forces and set all additional stakes for this project, including interchanges, which are needed to establish offset stakes, reference points, slope stakes, pavement and curb line and grade, stakes for bridges, culverts, sewers and drainage structures, paved gutters, walls, monuments, fence, right-of-way lines, and any other horizontal or vertical controls, including supplementary bench marks, necessary to secure a correct layout of the work. Grading slope stakes shall be set at sufficient intervals (not to exceed 30 meters (100 feet)) to accurately outline the slopes. Stakes for line and grade of pavement and/or curb shall be set at sufficient station intervals (not to exceed 15 meters (50 feet)) to assure substantial conformance to plan line and grade. Staking of right-of-way lines shall consist of placing tall stakes, properly identified and readily discernible, at points of change in width or direction of the right-of-way and at points along the line so that at least two of the stakes can be seen distinctly from any point of the line. Right-of-way lines shall be staked at locations where construction is to be performed, prior to beginning construction. The Contractor will not be required to set additional stakes to locate a utility line which is not included as a pay item in the contract, or to determine the property line between properties.

The Contractor shall be responsible for having the finished work substantially conform to the lines, grades, elevations and dimensions called for in the plans. Any inspection or checking of the Contractor's layout by the County Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his responsibility to secure the proper dimensions, grades and elevations of the several parts of the work. The Contractor shall exercise care in the preservation of stakes and bench marks, and shall have them reset at his expense when any are damaged, lost, displaced or removed. The Contractor shall use competent personnel and suitable equipment for the layout work required. The Contractor shall not engage the services of any person or persons in the employ of the Cook County Department of Transportation and Highways for the performance of any of the work covered by this item.

It is emphasized that the establishment of the centerline of survey and benchmark circuit is critical to start up of construction and must be accomplished at the earliest possible time by the Contractor, properly documented and approved by the Resident Engineer as described below.

RESPONSIBILITY OF THE COUNTY

a) The County will check both horizontal and vertical clearances at all grade separations.

b) The County will make random checks of the Contractor's staking to determine if the work is in substantial conformance with the plans. Where the Contractor's work will tie into the work that is being or will be done by others, checks will be made to determine if the work is in conformance with the proposed overall grade and horizontal alignment.

c) The County will set all stakes for utility adjustments and for building fences along the right-of-way line by parties other than the Contractor.

d) Immediately after the Contractor has staked the drainage structures, County forces will check the staking, either visually or by instrument, to determine if the structures fit the waterways in horizontal alignment and vertical elevation. If it is necessary to redesign the drainage structure, the County will furnish a revised design and restake the structure.

e) The County will make all measurements and take all cross-sections from which the various pay items are to be measured, such as, cross-sections for all borrow pits and channel change, additional measurements needed to determine the amount of special excavation and classified excavation and all measurements on which the depth of sub-bases, bases or portland cement concrete pavement are to be verified.

f) Where the Contractor in setting construction stakes discovers discrepancies, the County will check to determine their nature and make whatever revisions are necessary in the plans, including the recross-sectioning of the area involved, and all additional restaking necessary.

g) The County will check the Contractor's horizontal layout staking of all structures over 6 meters (20 feet) in span length. The County will accept the responsibility for the accuracy of these stakes, after the County completes their check, provided they are protected by the Contractor to the extent that no displacement occurs. The County will not be responsible for transferring the lines to the work.

h) The County will accept responsibility for the accuracy of specific stakes that are covered by random instrument checks and recorded, provided no displacement occurs.

i) It is not the responsibility of the County to check the correctness of the Contractor's stakes except as provided herein; however, any errors that are apparent shall be immediately called to the Contractor's attention and he shall be required to make the necessary correction before the stakes are used for construction purposes.

j) On the jobs where the plan quantities for excavation are to be used as the final pay quantities, it will be necessary for the County to make sufficient checks to determine if the work has been completed in substantial conformance with the plan cross-sections.

k) All measurements necessary to determine the final pay item quantities must be made by the County independently of the Contractor's station stakes and any bench marks established by the Contractor.

l) If requested, the County will furnish a schedule showing the pavement profile grade elevations at intervals of 7.5 meters (25 feet) and/or provide computer services necessary to establish remote control for complex interchanges and/or structures.

RESPONSIBILITY OF THE CONTRACTOR

a) The Contractor will locate and reference the centerline of all roads and streets except interchange ramps. The centerline of private entrances and short street intersection returns need not be located or referenced by the Contractor.

b) Locating and referencing the centerline of survey will consist of locating and referencing the control points of the centerline such as PC's, PT's and as many POT's as are necessary to provide a line of sight.

c) Bench marks will be established along the project outside of construction lines and at each major structure over 6 meters (20 feet) in span length, and intervals not exceeding 300 meters (1000 feet) horizontally and 6 meters (20 feet) vertically.

d) Stakes set for A. and B. above shall be identified in the field to the Engineer and the field notes kept in the Resident Engineer's office for reference by him.

e) The Contractor will set all other stakes necessary to establish limits and elevations of the work and shall define right-of-way for the project.

f) The right-of-way shall be considered to be defined when stakes readily discernible, have been placed at points of change in width or direction of the right-of-way line and at points along the line so that at least two such right-of-way stakes can be seen from any point on the line. The Contractor should note that utility relocation may be dependent upon the proper delineation of right-of-way. Staking of the right-of-way must be accomplished at the earliest possible time.

g) The Contractor will not be required to set additional stakes to locate a utility line or to determine the property line between properties.

h) Field notes shall be kept in standard survey field note books and these books shall become the property of the Cook County Department of Transportation and Highways at the completion of the project.

i) It is not considered the responsibility of the Contractor to make a detailed check of the accuracy of the plans, however, it is expected that the Contractor will advise the County promptly of known errors in the plans.

This item will be paid for at the contract lump sum price for CONSTRUCTION LAYOUT STAKES AND SURVEY CONTROL POINTS, which price shall be payment in full for all services, materials, labor, equipment, tools and incidentals to complete this item. Payment for this work shall be scheduled as follows;

25% of the bid price to be paid on the first pay estimate.

The remaining 75% of the bid price to be apportioned among the remaining pay estimates for the project.

All payments subject to retainage per the terms of this Contract.

SPECIAL PROVISION
FOR
MUNICIPAL COORDINATION/TRANSFER OF
JURISDICTION AND/OR MAINTENANCE

Upon completion of the improvement provided for by the contract, the jurisdiction and/or maintenance of certain portions of the completed work will be transferred from the Cook County Department of Transportation and Highways to the Village of Lincolnwood, the Village of Skokie, Chicago Transit Authority, Chicago Department of Transportation and the Illinois Department of Transportation. The agency accepting jurisdiction and/or maintenance will have the opportunity to observe the project under construction, bring to the attention of the County's Resident Engineer any matters of concern with respect to same, and to have the opportunity to participate in the final inspection of the completed project. The jurisdictional/maintenance agreement specifies a transfer of jurisdiction/maintenance subject to local agency project acceptance. The contractor shall take this into consideration when bidding on this project. Any coordination efforts by the contractor shall be incidental to this contract.

SPECIAL PROVISION
FOR
ENGINEER'S FIELD OFFICE

This Special Provision amends the provisions of the Standard Specifications for Road and Bridge Construction and shall be construed to be a part thereof.

670.02 Engineer's Field Office Type A. Amend the following of Article 670.02, paragraph 6:

(i) A minimum of two communication paths. The configuration shall include:

(1) Internet Connection. A commercial grade internet service connection using telephone DSL, cable broadband or CDMA wireless technology with a MINIMUM bandwidth of 768 kbs. Additionally, an 802.11 g/N wireless router shall be provided, which will allow connection by the Engineer and up to four Department Staff. All costs related with equipment, installation, maintenance and service shall be included.

The Cook County Department of Transportation and Highways Engineering Computer Division contact person is as follows:

Mo Al-Khouja
Cook County Administration Building
Room 2400
69 West Washington Street
Chicago, Illinois 60602-3007
Work: (312) 603-1753
E-mail: M.Al-Khouja@cookcountyil.gov

(2) Telephone Lines. Three separate telephone lines with voicemail shall be provided.

(j) One digital copy machine with an automatic feed tray storing at least 30 sheets of paper, capable of reproducing prints as black lines on white paper up to 11 x 17 in. (280 x 432 mm) in size. Reproduction paper (8.5 x 11 in., 8.5 x 14 in., and 11 x 17 in.) shall be supplied to the satisfaction of the Engineer. Maintenance, activating agent and power source for the copy machine shall be included.

The digital copy machine shall also be capable of scanning to / printing from a computer and faxing over a telephone line. All cables, support equipment, software, installation and technical support required to make and keep the equipment operational for up to four computers shall be included.

The digital copy machine, software and support equipment must be compatible with the most current version of Windows operating system.

(k) One electric hot and cold water dispenser. 5 gallon and 0.5 liter bottles of water shall be supplied to the satisfaction of the Resident Engineer.

(l) One electric paper shredder capable of shredding a minimum 15 sheets at a time.

670.02 Engineer's Field Office Type A. Add the following to Article 670.02, paragraph 6:

(m) Three (3) new cellular phones with the capacity for both cellular call and two (2) way communication (Nextel or equal), established voice mail, hands free adaptors, belt clips and car adaptors. These cellular phones will be for exclusive use by the Engineer and the Engineer's support staff. All of the cellular phones and services must be compatible with each other. Maintenance and operating costs of the cellular phones shall be included.

(n) One digital camera with 8 megapixel minimum resolution, batteries to operate the camera, USB cable, minimum 8 GB memory card and digital camera case.

(o) A new upright bagless vacuum cleaner with a hepa-filter or new shop vacuum with a Hepa-Filter and any miscellaneous cleaning supplies necessary for the Engineer to maintain the Field Office.

A weekly cleaning service for the field office shall be provided.

(p) The following items are suggested office and field supplies. These items are subject to revision by the Resident Engineer, must be coordinated with the Resident Engineer prior to purchase, and shall be furnished to the satisfaction of the Resident Engineer prior to commencement and for the duration of the project.

If no pay item for Engineer's Field Office is included in the contract or used by the Department, the following items shall be incidental to the contract.

These items will not be returned at the conclusion of the contract.

OFFICE:

Adjustable Hole Punch, Black (3-Hole)	1 Each
Bankers Box, Legal size With String and Button Closure	4 Pack
Binder Clips, Large, 2", Box of 12 Each	2 Each
Binder Clips, Medium, 1 ¼", Box of 12 Each	2 Each
Binder Dividers, Avery index marker or equivalent	1 Each
Binder, Black 1" Capacity	1 Each
Binder, Black, 1-1/2" Capacity	2 Each
Binder, Black, 3" Capacity	1 Each
Calendar, At-A-Glance 3-Month Wall or equivalent	1 Each
Calendar, At-A-Glance Compact Desk Calendar Base and Calendar Refill	1 Each

3" x 3 ¾" or equivalent	
Clipboard, Legal	2 Each
Correction Fluid, Multipurpose, White	1 Each
DVD Cases, Slim Line, 25 Count	1 Pack
DVD Discs, R.W., 25 Count	1 Pack
Folders, Manila 250 Count Letter 1/3 Cut File	1 Box
Highlighters, Assorted Fluorescent Colors, 4 Count	1 Pack
Labels, Multipurpose White 500 Count, 3/4" x 1 ½"	1 Pack
Letter Trays, Stackable, Pack of 6	1 Each
Markers, Large, Permanent, Black	12 Each
Markers, Sharpie, Black or equivalent	12 Each
Memory Card, 2 Gig SD for Digital Camera	1 Each
OIC, Ideal Clamps, Small Box of 50	2 Each
Paper Clips, Jumbo No. 1, Regular, Box of 100	2 Each
Paper Clips, No. 1, Regular, Box of 100	2 Each
Paper, Quadrille Pad, 8 ½" x 11"	6 Each
Paper, Standard Canary Letter Pads, 6 Count, 8 ½" x 11 ¾"	1 Pack
Pen, Black	2 Pack
Pen, Red	1 Pack
Pencil, Lead Refill, 0.5 mm, Tube of 12	2 Each
Pencils, Disposable	2 Pack
Pencils, Color (Green)	1 Pack
Pencils, Color (Orange)	1 Pack
Pencils, Color (Red)	1 Pack
Pencils, Color (Yellow)	1 Pack
Pencils, Pentel Forte or equivalent, Automatic Pencil, 0.5 mm	3 Each

Pencils, Zebra Rubber Sharpo Mechanical Pencil or equivalent	2 Each
Post-It Memo Cubes, 3 7/8" x 3 7/8", Cube of 300 Sheets	1 Each
Post-It Notes, Yellow, 12 Count 3" x 3"	1 Pack
Rubber Bands, #16, 1 lb., 2 " x 1/16"	1 Each
Rubber Bands, #32, 1 lb., 3" x 1/8"	1 Each
Scissors, Deskwork's or equivalent	1 Each
Staple Remover, Pinch Type	1 Each
Stapler, Black Deluxe Standard	1 Each
Tape Dispenser	1 Each
Tape, Transparent Refills ¾"	6 Each

FIELD:

Ruler, 6 ft., inch/tenth	6 Each
Tape, 100 ft., Fiberglass with Handle	1 Each
Tape, 25 ft. inch/tenth, Retractable, Lufkin or equivalent	2 Each
Wheel, Measuring English	1 Each

The estimated cost for office and field supplies shall be as follows:

Bid Amount		Approximate Cost
Up to	$1,000,000	$ 625
$1,000,000	$3,000,000	$ 750
$3,000,000	$5,000,000	$ 875
Over	$5,000,000	$1,000

SPECIAL PROVISION
FOR
CONSTRUCTION DEBRIS

Add the following to the third paragraph of Article 202.03 of the Standard Specifications:

"The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads that is not commingled with any waste, without the maintenance of documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for 3 years."

SPECIAL PROVISION
FOR
CLEAN CONSTRUCTION AND DEMOLITION DEBRIS

In accordance with the State of Illinois Environmental Protection Act, the Cook County Department of Transportation and Highways (the Department), as "Site Owner" at the subject highway improvement location, is required to certify that all materials to be taken to an uncontaminated soil fill location, including uncontaminated soil and clean construction and demolition debris, are to be certified as uncontaminated soil.

The Department has performed sufficient testing at the site and has determined that soils to be excavated per the plans as well as existing concrete and asphalt pavement materials meet the criteria to be considered clean construction and demolition debris. Exceptions are listed below*. In accordance with the Act, the certification is made per IEPA Form LPC-663. A copy of the completed Form LPC-663 has been attached to this special provision. The original form is available from;

Ms. Holly Cichy
Chief Engineer of Construction
Cook County Department of Transportation and Highways
69 W. Washington St., 23rd Floor
Chicago, IL 60602
(312) 603-1613

The Contractor is expected to be thoroughly familiar with the provisions of the Environmental Protection Act as it relates to proper disposal of excavated material and construction debris. Should the Contractor choose to dispose of surplus soil material at a registered uncontaminated soil fill location, this form must be submitted to the operator of that location before any materials can be disposed of at that site. The Contractor should be advised that, even with the submittal of the properly executed Form LPC-663, the fill operators retain the right to reject any or all loads from a particular construction site based on their own determination of the suitability of material from that site. Each certification covers only material from that specified job site. The Contractor shall take care not to stockpile or mix together material from different sites before taking that material for disposal.

This special provision is not to be construed as a requirement that obligates the Contractor to dispose of surplus material at a registered uncontaminated soil fill location.

* Based on the Department's investigation and location history including the possible determination of a LUST site or other risk indicators, it has been determined that materials excavated at the following locations may not meet the Clean Construction and Demolition Debris requirements:

*** LOCATIONS TO BE LISTED, IF APPLICABLE**

This Special Provision will modify Article 669 of the Standard Specifications as follows:

The Contractor is advised to consider the cost of disposing of all clean construction and demolition debris as delineated herein and reflect those costs in their bids for **EARTH EXCAVATION** or other appropriate items which may include soils removal. Pay items for **NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, HAZAROUS WASTE DISPOSAL** and **SPECIAL WASTE PLANS AND REPORTS** have been included in the Summary of Quantities in order to provide for the disposal of materials in those

locations listed above. The requirements for removal and disposal of such materials shall be in accordance with Article 669.

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663 Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: ISGS #2580-2 (Lincolnwood Public Library) Office Phone Number, if available: _____

Physical Site Location (address, inclduding number and street):
4000 W. Pratt Avenue

City: Lincolnwood State: IL Zip Code: 60712

County: Cook Township: Niles

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.00478 (Decimal Degrees) Longitude: -87.72905 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: 0311655077 BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Illinois Department of Transportation	Name:	
Street Address:	201 West Center Court	Street Address:	
PO Box:		PO Box:	
City:	Schaumburg State: IL	City:	State:
Zip Code:	60196-1096 Phone: 847-705-4159	Zip Code:	Phone:
Contact:	Sam Mead	Contact:	
Email, if available:	Sam.Mead@illinois.gov	Email, if available:	

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: ISGS #2580-2 (Lincolnwood Public Library)

Latitude: 42.00478 Longitude: -87.72905

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

Location E5102B02 was sampled within the construction zone adjacent to the site. Refer to PSI Report Section 4.2.1 and Section 4.3.1 ISGS #2580-2 (Lincolnwood Public Library), Table 4-4, and Figure 4-1.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

See attached data summary table and associated laboratory data package 500-55467-1.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Steven Gobelman (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: IDOT

Street Address: 2300 South Dirksen Parkway

City: Springfield State: IL Zip Code: 62764

Phone: 2177854246

Steven Gobelman
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

6/4/13
Date:

Affix P.E. or P.G. Seal:

STEVEN GOBELMAN
196-000598
LICENSED PROFESSIONAL GEOLOGIST
STATE OF ILLINOIS

Analytical Data Summary
PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

Key to Data Tables

µg/kg = Micrograms per kilogram.
MAC = Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
mg/kg = Milligrams per kilogram.
mg/L = Milligrams per liter.
MSA = Metropolitan Statistical Area
µg/L = Micrograms per liter.
TCLP = Toxicity Characteristic Leaching Procedure.
SCGIER = Soil Component of the Groundwater Ingestion Exposure Route
SPLP = Synthetic Precipitation Leaching Procedure.
ND = Not detected.
NA = Not analyzed.
J = Estimated value.
B = Also present in blank.
U = Analyte was analyzed for but not detected.

Criteria Qualifiers

† = Concentration exceeds most stringent Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
m = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Metropolitan Statistical Areas.
* = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Chicago corporate limits.

c = Concentration exceeds a TACO Tier 1 RO for the Construction Worker Exposure Route.
L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the Soil Component of the Groundwater Ingestion Exposure Route (Class I groundwater) AND the total concentration exceeds the MAC.

= Concentration exceeds the most Stringent MAC, but is below the MAC for an MSA.

= Soil: Concentration exceeds all applicable MACs.
Groundwater: Concentration exceeds the TACO Tier 1 RO for Class 1 groundwater.

PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

CONTAMINANTS OF CONCERN

SITE	ISGS #2580-2 (Lincolnwood Public Library)		Comparison Criteria		
BORING	E5102B02		MACs		TACO
SAMPLE	E5102B02 (2-4)	E5102B02 (8-10)			
MATRIX	Soil	Soil			
DEPTH (m)	0.6-1.2	2.4-3.1	Most Stringent	Within an MSA	SCGIER
pH	7.61	7.91			
VOCs - None Detected					
SVOCs - None Detected					
Inorganics (mg/kg)					
Arsenic	7.7	11	11.3	13	--
Barium	40 BJ	28 BJ	1,500	--	--
Beryllium	0.67	0.59	22	--	--
Cadmium	0.53	0.58	5.2	--	--
Chromium	16	14	21	--	--
Cobalt	12	9.4	20	--	--
Copper	30	30	2,900	--	--
Iron	21,000 BJ †m	29,000 BJ †m	15,000	15,900	--
Lead	12	14	107	--	--
Magnesium	23,000 BJ	32,000 BJ	325,000	--	--
Manganese	820 BJ †m	440 BJ	630	636	--
Mercury	0.030	0.024	0.89	--	--
Nickel	32	30	100	--	--
Thallium	0.48 J	0.41 J	2.6	--	--
Vanadium	18	17	550	--	--
Zinc	41	43	5,100	--	--
TCLP Metals (mg/L)					
Barium	0.28 J	0.20 J	--	--	2
Cadmium	0.0024 J	0.0028 J	--	--	0.005
Cobalt	ND U	0.035	--	--	1
Manganese	1.1	2.1	--	--	0.15
Nickel	0.013 J	0.042	--	--	0.1
Selenium	ND U	0.012 J	--	--	0.05
SPLP Metals (mg/L)					
Manganese	0.11	0.025	--	--	0.15

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-55467-1
Client Project/Site: IDOT - Skokie - WO 51

For:
Ecology and Environment, Inc.
33 West Monroe St.
Suite 550
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

Authorized for release by:
4/9/2013 10:32:22 AM

Richard Wright
Project Manager II
richard.wright@testamericainc.com

LINKS
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (2-4)
Date Collected: 03/25/13 13:55
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-16
Matrix: Solid
Percent Solids: 83.0

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<6.1		6.1	1.3	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Vinyl chloride	<6.1		6.1	1.3	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Bromomethane	<6.1		6.1	1.9	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Chloroethane	<6.1	*	6.1	1.7	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,1-Dichloroethene	<6.1		6.1	0.99	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Carbon disulfide	<6.1		6.1	0.92	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Acetone	<6.1	*	6.1	2.7	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Methylene Chloride	<6.1		6.1	1.7	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
trans-1,2-Dichloroethene	<6.1		6.1	0.85	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Methyl tert-butyl ether	<6.1		6.1	1.0	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,1-Dichloroethane	<6.1		6.1	0.97	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
cis-1,2-Dichloroethene	<6.1		6.1	0.87	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Methyl Ethyl Ketone	<6.1		6.1	2.2	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Chloroform	<6.1		6.1	0.71	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,1,1-Trichloroethane	<6.1		6.1	0.92	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Carbon tetrachloride	<6.1		6.1	1.1	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Benzene	<6.1		6.1	0.84	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,2-Dichloroethane	<6.1		6.1	0.91	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Trichloroethene	<6.1		6.1	1.0	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,2-Dichloropropane	<6.1		6.1	0.93	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Bromodichloromethane	<6.1		6.1	1.1	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
cis-1,3-Dichloropropene	<6.1		6.1	0.81	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
methyl isobutyl ketone	<6.1		6.1	1.6	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Toluene	<6.1		6.1	0.86	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
trans-1,3-Dichloropropene	<6.1		6.1	1.1	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,1,2-Trichloroethane	<6.1		6.1	0.84	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Tetrachloroethene	<6.1		6.1	0.94	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
2-Hexanone	<6.1		6.1	1.8	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Dibromochloromethane	<6.1		6.1	1.1	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Chlorobenzene	<6.1		6.1	0.62	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Ethylbenzene	<6.1		6.1	1.2	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Styrene	<6.1		6.1	0.81	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Bromoform	<6.1		6.1	1.4	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,1,2,2-Tetrachloroethane	<6.1		6.1	1.2	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
Xylenes, Total	<12		12	0.56	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1
1,3-Dichloropropene, Total	<6.1		6.1	0.81	ug/Kg	☼	03/25/13 13:55	04/02/13 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 134*	*03/25/13 13:55*	*04/02/13 19:57*	*1*
Toluene-d8 (Surr)	*100*		*75 - 122*	*03/25/13 13:55*	*04/02/13 19:57*	*1*
4-Bromofluorobenzene (Surr)	*95*		*70 - 122*	*03/25/13 13:55*	*04/02/13 19:57*	*1*
Dibromofluoromethane	*99*		*75 - 120*	*03/25/13 13:55*	*04/02/13 19:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<200		200	61	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Bis(2-chloroethyl)ether	<200		200	57	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
1,3-Dichlorobenzene	<200		200	41	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
1,4-Dichlorobenzene	<200		200	41	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
1,2-Dichlorobenzene	<200		200	42	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (2-4)
Date Collected: 03/25/13 13:55
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-16
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<200		200	52	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,2'-oxybis[1-chloropropane]	<200		200	43	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
N-Nitrosodi-n-propylamine	<200		200	49	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Hexachloroethane	<200		200	41	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2-Chlorophenol	<200		200	55	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Nitrobenzene	<39		39	12	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Bis(2-chloroethoxy)methane	<200		200	43	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
1,2,4-Trichlorobenzene	<200		200	44	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Isophorone	<200		200	43	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4-Dimethylphenol	<390		390	120	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Hexachlorobutadiene	<200		200	51	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Naphthalene	<39		39	7.5	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4-Dichlorophenol	<390		390	120	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Chloroaniline	<780		780	120	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4,6-Trichlorophenol	<390		390	49	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4,5-Trichlorophenol	<390		390	110	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Hexachlorocyclopentadiene	<780		780	180	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2-Methylnaphthalene	<200		200	50	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2-Nitroaniline	<200		200	70	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2-Chloronaphthalene	<200		200	44	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Chloro-3-methylphenol	<390		390	190	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,6-Dinitrotoluene	<200		200	46	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2-Nitrophenol	<390		390	61	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
3-Nitroaniline	<390	*	390	75	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Dimethyl phthalate	<200		200	48	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4-Dinitrophenol	<780		780	200	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Acenaphthylene	<39		39	8.9	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
2,4-Dinitrotoluene	<200	*	200	59	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Acenaphthene	<39		39	12	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Dibenzofuran	<200		200	47	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Nitrophenol	<780		780	210	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Fluorene	<39		39	8.8	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Nitroaniline	<390		390	80	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Bromophenyl phenyl ether	<200		200	43	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Hexachlorobenzene	<78		78	7.6	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Diethyl phthalate	<200		200	65	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4-Chlorophenyl phenyl ether	<200		200	61	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Pentachlorophenol	<780		780	200	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
N-Nitrosodiphenylamine	<200		200	52	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
4,6-Dinitro-2-methylphenol	<390		390	94	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Phenanthrene	<39		39	16	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Anthracene	<39		39	9.1	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Carbazole	<200		200	55	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Di-n-butyl phthalate	<200		200	49	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Fluoranthene	<39		39	16	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Pyrene	<39		39	14	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Butyl benzyl phthalate	<200		200	49	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Benzo[a]anthracene	<39		39	8.1	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Chrysene	<39		39	8.8	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (2-4)
Date Collected: 03/25/13 13:55
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-16
Matrix: Solid
Percent Solids: 83.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<200		200	32	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Bis(2-ethylhexyl) phthalate	<200		200	51	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Di-n-octyl phthalate	<200		200	79	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Benzo[b]fluoranthene	<39		39	7.5	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Benzo[k]fluoranthene	<39		39	9.3	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Benzo[a]pyrene	<39		39	7.1	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Indeno[1,2,3-cd]pyrene	<39		39	13	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Dibenz(a,h)anthracene	<39		39	11	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
Benzo[g,h,i]perylene	<39		39	13	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1
3 & 4 Methylphenol	<200		200	73	ug/Kg	☼	03/27/13 17:59	04/02/13 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*48*		*30 - 110*	*03/27/13 17:59*	*04/02/13 00:37*	*1*
Phenol-d5	*46*		*31 - 110*	*03/27/13 17:59*	*04/02/13 00:37*	*1*
Nitrobenzene-d5	*54*		*30 - 115*	*03/27/13 17:59*	*04/02/13 00:37*	*1*
2-Fluorobiphenyl	*68*		*30 - 119*	*03/27/13 17:59*	*04/02/13 00:37*	*1*
2,4,6-Tribromophenol	*62*		*35 - 137*	*03/27/13 17:59*	*04/02/13 00:37*	*1*
Terphenyl-d14	*58*		*36 - 134*	*03/27/13 17:59*	*04/02/13 00:37*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.15	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Arsenic	**7.7**		0.55	0.12	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Barium	**40**	**B**	0.55	0.066	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Beryllium	**0.67**		0.22	0.016	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Cadmium	**0.53**		0.11	0.027	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Chromium	**16**		0.55	0.093	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Cobalt	**12**		0.28	0.029	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Copper	**30**		0.55	0.15	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Iron	**21000**	**B**	11	4.8	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Lead	**12**		0.28	0.095	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Magnesium	**23000**	**B**	5.5	1.1	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Manganese	**820**	**B**	5.5	0.78	mg/Kg	☼	03/26/13 17:00	04/01/13 13:41	10
Nickel	**32**		0.55	0.12	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Selenium	<0.55		0.55	0.16	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Silver	<0.28		0.28	0.033	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Thallium	**0.48**	**J**	0.55	0.14	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Vanadium	**18**		0.28	0.042	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1
Zinc	**41**		1.1	0.38	mg/Kg	☼	03/26/13 17:00	03/29/13 07:01	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Barium	**0.28**	**J**	0.50	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/02/13 15:00	04/03/13 14:41	1
Cadmium	**0.0024**	**J**	0.0050	0.0020	mg/L		04/02/13 15:00	04/03/13 14:41	1
Chromium	<0.025		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Cobalt	<0.025		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:41	1
Copper	<0.025		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Iron	<0.20		0.20	0.20	mg/L		04/02/13 15:00	04/03/13 14:41	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (2-4)
Date Collected: 03/25/13 13:55
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-16
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/02/13 15:00	04/03/13 14:41	1
Manganese	**1.1**		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Nickel	**0.013**	J	0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Selenium	<0.050		0.050	0.010	mg/L		04/02/13 15:00	04/03/13 14:41	1
Silver	<0.025		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:41	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:41	1
Zinc	<0.10		0.10	0.020	mg/L		04/02/13 15:00	04/03/13 14:41	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.11**		0.025	0.010	mg/L		04/06/13 15:00	04/08/13 22:03	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/02/13 15:00	04/03/13 15:37	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/02/13 15:00	04/03/13 15:37	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		04/02/13 13:30	04/03/13 11:17	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.030**		0.019	0.0071	mg/Kg	☼	03/27/13 14:30	03/28/13 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.61**		0.200	0.200	SU			04/01/13 16:07	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (8-10)
Date Collected: 03/25/13 14:00
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-17
Matrix: Solid
Percent Solids: 83.2

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<5.6		5.6	1.2	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Vinyl chloride	<5.6		5.6	1.2	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Bromomethane	<5.6		5.6	1.7	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Chloroethane	<5.6	*	5.6	1.5	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,1-Dichloroethene	<5.6		5.6	0.91	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Carbon disulfide	<5.6		5.6	0.84	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Acetone	<5.6	*	5.6	2.4	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Methylene Chloride	<5.6		5.6	1.5	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
trans-1,2-Dichloroethene	<5.6		5.6	0.78	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Methyl tert-butyl ether	<5.6		5.6	0.93	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,1-Dichloroethane	<5.6		5.6	0.89	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
cis-1,2-Dichloroethene	<5.6		5.6	0.80	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Methyl Ethyl Ketone	<5.6		5.6	2.0	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Chloroform	<5.6		5.6	0.65	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,1,1-Trichloroethane	<5.6		5.6	0.84	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Carbon tetrachloride	<5.6		5.6	1.0	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Benzene	<5.6		5.6	0.77	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,2-Dichloroethane	<5.6		5.6	0.84	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Trichloroethene	<5.6		5.6	0.93	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,2-Dichloropropane	<5.6		5.6	0.86	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Bromodichloromethane	<5.6		5.6	0.97	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
cis-1,3-Dichloropropene	<5.6		5.6	0.74	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
methyl isobutyl ketone	<5.6		5.6	1.5	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Toluene	<5.6		5.6	0.79	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
trans-1,3-Dichloropropene	<5.6		5.6	1.0	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,1,2-Trichloroethane	<5.6		5.6	0.77	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Tetrachloroethene	<5.6		5.6	0.86	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
2-Hexanone	<5.6		5.6	1.6	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Dibromochloromethane	<5.6		5.6	0.98	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Chlorobenzene	<5.6		5.6	0.57	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Ethylbenzene	<5.6		5.6	1.1	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Styrene	<5.6		5.6	0.74	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Bromoform	<5.6		5.6	1.3	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,1,2,2-Tetrachloroethane	<5.6		5.6	1.1	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
Xylenes, Total	<11		11	0.51	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1
1,3-Dichloropropene, Total	<5.6		5.6	0.74	ug/Kg	☼	03/25/13 14:00	04/02/13 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 134*	*03/25/13 14:00*	*04/02/13 20:20*	*1*
Toluene-d8 (Surr)	*98*		*75 - 122*	*03/25/13 14:00*	*04/02/13 20:20*	*1*
4-Bromofluorobenzene (Surr)	*94*		*70 - 122*	*03/25/13 14:00*	*04/02/13 20:20*	*1*
Dibromofluoromethane	*104*		*75 - 120*	*03/25/13 14:00*	*04/02/13 20:20*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<190		190	60	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Bis(2-chloroethyl)ether	<190		190	56	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
1,3-Dichlorobenzene	<190		190	40	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
1,4-Dichlorobenzene	<190		190	40	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
1,2-Dichlorobenzene	<190		190	41	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (8-10)
Date Collected: 03/25/13 14:00
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-17
Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<190		190	50	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,2'-oxybis[1-chloropropane]	<190		190	42	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
N-Nitrosodi-n-propylamine	<190		190	48	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Hexachloroethane	<190		190	40	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2-Chlorophenol	<190		190	54	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Nitrobenzene	<38		38	12	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Bis(2-chloroethoxy)methane	<190		190	42	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
1,2,4-Trichlorobenzene	<190		190	43	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Isophorone	<190		190	42	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4-Dimethylphenol	<380		380	120	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Hexachlorobutadiene	<190		190	50	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Naphthalene	<38		38	7.3	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4-Dichlorophenol	<380		380	120	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Chloroaniline	<760		760	120	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4,6-Trichlorophenol	<380		380	48	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4,5-Trichlorophenol	<380		380	110	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Hexachlorocyclopentadiene	<760		760	180	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2-Methylnaphthalene	<190		190	49	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2-Nitroaniline	<190		190	68	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2-Chloronaphthalene	<190		190	43	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Chloro-3-methylphenol	<380		380	180	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,6-Dinitrotoluene	<190		190	45	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2-Nitrophenol	<380		380	59	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
3-Nitroaniline	<380	*	380	73	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Dimethyl phthalate	<190		190	47	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4-Dinitrophenol	<760		760	190	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Acenaphthylene	<38		38	8.7	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
2,4-Dinitrotoluene	<190	*	190	58	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Acenaphthene	<38		38	11	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Dibenzofuran	<190		190	46	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Nitrophenol	<760		760	200	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Fluorene	<38		38	8.6	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Nitroaniline	<380		380	78	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Bromophenyl phenyl ether	<190		190	42	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Hexachlorobenzene	<76		76	7.5	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Diethyl phthalate	<190		190	63	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4-Chlorophenyl phenyl ether	<190		190	60	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Pentachlorophenol	<760		760	190	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
N-Nitrosodiphenylamine	<190		190	51	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
4,6-Dinitro-2-methylphenol	<380		380	92	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Phenanthrene	<38		38	16	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Anthracene	<38		38	8.9	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Carbazole	<190		190	53	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Di-n-butyl phthalate	<190		190	48	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Fluoranthene	<38		38	16	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Pyrene	<38		38	14	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Butyl benzyl phthalate	<190		190	47	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Benzo[a]anthracene	<38		38	7.9	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Chrysene	<38		38	8.6	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (8-10)
Date Collected: 03/25/13 14:00
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-17
Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<190		190	32	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Bis(2-ethylhexyl) phthalate	<190		190	50	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Di-n-octyl phthalate	<190		190	77	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Benzo[b]fluoranthene	<38		38	7.4	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Benzo[k]fluoranthene	<38		38	9.0	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Benzo[a]pyrene	<38		38	6.9	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Indeno[1,2,3-cd]pyrene	<38		38	13	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Dibenz(a,h)anthracene	<38		38	11	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
Benzo[g,h,i]perylene	<38		38	13	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1
3 & 4 Methylphenol	<190		190	72	ug/Kg	☼	03/27/13 17:59	04/02/13 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*37*		*30 - 110*	*03/27/13 17:59*	*04/02/13 14:04*	*1*
Phenol-d5	*38*		*31 - 110*	*03/27/13 17:59*	*04/02/13 14:04*	*1*
Nitrobenzene-d5	*35*		*30 - 115*	*03/27/13 17:59*	*04/02/13 14:04*	*1*
2-Fluorobiphenyl	*38*		*30 - 119*	*03/27/13 17:59*	*04/02/13 14:04*	*1*
2,4,6-Tribromophenol	*45*		*35 - 137*	*03/27/13 17:59*	*04/02/13 14:04*	*1*
Terphenyl-d14	*50*		*36 - 134*	*03/27/13 17:59*	*04/02/13 14:04*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.15	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Arsenic	**11**		0.58	0.13	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Barium	**28**	**B**	0.58	0.069	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Beryllium	**0.59**		0.23	0.017	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Cadmium	**0.58**		0.12	0.029	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Chromium	**14**		0.58	0.097	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Cobalt	**9.4**		0.29	0.030	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Copper	**30**		0.58	0.16	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Iron	**29000**	**B**	12	5.0	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Lead	**14**		0.29	0.10	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Magnesium	**32000**	**B**	5.8	1.1	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Manganese	**440**	**B**	0.58	0.082	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Nickel	**30**		0.58	0.13	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Selenium	<0.58		0.58	0.17	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Silver	<0.29		0.29	0.035	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Thallium	**0.41**	**J**	0.58	0.15	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Vanadium	**17**		0.29	0.044	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1
Zinc	**43**		1.2	0.40	mg/Kg	☼	03/26/13 17:00	03/29/13 07:07	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Barium	**0.20**	**J**	0.50	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/02/13 15:00	04/03/13 14:46	1
Cadmium	**0.0028**	**J**	0.0050	0.0020	mg/L		04/02/13 15:00	04/03/13 14:46	1
Chromium	<0.025		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Cobalt	**0.035**		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:46	1
Copper	<0.025		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Iron	<0.20		0.20	0.20	mg/L		04/02/13 15:00	04/03/13 14:46	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Client Sample ID: E5102B02 (8-10)
Date Collected: 03/25/13 14:00
Date Received: 03/26/13 11:04

Lab Sample ID: 500-55467-17
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/02/13 15:00	04/03/13 14:46	1
Manganese	**2.1**		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Nickel	**0.042**		0.025	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Selenium	**0.012**	J	0.050	0.010	mg/L		04/02/13 15:00	04/03/13 14:46	1
Silver	<0.025		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:46	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/02/13 15:00	04/03/13 14:46	1
Zinc	<0.10		0.10	0.020	mg/L		04/02/13 15:00	04/03/13 14:46	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.025**		0.025	0.010	mg/L		04/06/13 15:00	04/08/13 22:07	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/02/13 15:00	04/03/13 15:58	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/02/13 15:00	04/03/13 15:58	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		04/02/13 13:30	04/03/13 11:19	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.020	0.0075	mg/Kg	☼	03/27/13 14:30	03/28/13 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.91**		0.200	0.200	SU			04/01/13 16:10	1

Definitions/Glossary

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55467-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-13
California	NELAP	9	01132CA	04-30-13
Georgia	State Program	4	N/A	04-30-13
Georgia	State Program	4	939	04-30-13
Hawaii	State Program	9	N/A	04-30-13
Illinois	NELAP	5	100201	04-30-13
Indiana	State Program	5	C-IL-02	04-30-13
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-11-13
Louisiana	NELAP	6	30720	06-30-13
Massachusetts	State Program	1	M-IL035	06-30-13
Mississippi	State Program	4	N/A	04-30-13
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-13
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	04-30-13
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Virginia	NELAP	3	460142	06-14-13
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	04-30-13

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-55467

Chain of Custody Number: E151-02

Page 1 of 1

Temperature °C of Cooler: _____

Report To (optional)		Bill To (optional)	
Contact:	Scott Cooper	Contact:	
Company:		Company:	
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client: Ecology & Environment	Client Project #: EE-004332-0001-01 TTO	Preservative	
Project Name: Crawford Ave		Parameter	
Project Location/State: Cook Co, IL	Lab Project #: 500072606		
Sampler: Scott Cooper	Lab PM: Dale Wright		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC	SVOC	Total TAL Metals	Total TAL Metals	PAH					Comments
11		ES101B02(2-4)	3-25-13	1215	2	S	X	X	X	X	X					
12		ES101B01(2-4)	3-25-13	1245	2	S	X	X	X	X	X					
13		ES101B01(12-14)	3-25-13	1250	2	S	X	X	X	X	X					
14		ES102B01(0-2)	3-25-13	1320	2	S	X	X	X	X	X					
15		ES102B01(10-12)	3-25-13	1330	2	S	X	X	X	X	X					
16		ES102B02(2-4)	3-25-13	1355	2	S	X	X	X	X	X					
17		ES102B02(8-10)	3-25-13	1400	2	S	X	X	X	X	X					
18		ES103B01(4-6)	3-25-13	1430	2	S	X	X	X	X	X					
19		ES103B01(6-8)	3-25-13	1435	2	S	X	X	X	X	X					
						3	3-25-13									

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ✓ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	EE	3-26-13	0940		TA	3-26-13	0940
	TA	3-26-13	1104		TA	3/26/13	1104

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments:

Lab Comments:

TN-4124-500 (1208)

4/9/2013

105

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: ISGS #2580-8 (Bryn Mawr Country Club) Office Phone Number, if available: _____

Physical Site Location (address, incldluding number and street):

6600 N. Crawford Avenue

City: Lincolnwood State: IL Zip Code: 60712

County: Cook Township: Niles

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.00184 (Decimal Degrees) Longitude: -87.72917 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: 0311655056 BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Illinois Department of Transportation	Name:	
Street Address:	201 West Center Court	Street Address:	
PO Box:		PO Box:	
City:	Schaumburg State: IL	City:	State:
Zip Code:	60196-1096 Phone: 847-705-4159	Zip Code:	Phone:
Contact:	Sam Mead	Contact:	
Email, if available:	Sam.Mead@illinois.gov	Email, if available:	

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: ISGS #2580-8 (Bryn Mawr Country Club)

Latitude: 42.00184 Longitude: -87.72917

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

Locations E5108B06 were sampled within the construction zone adjacent to the site. Refer to PSI Report Section 4.2.1 and Section 4.3.1 ISGS #2580-8 (Bryn Mawr Country Club), Figure 3-2 and Table 4-4.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

See attached data summary table and associated laboratory data packages 500-55511-1 and 500-55551-1.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Steven Gobelman (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: IDOT

Street Address: 2300 South Dirksen Parkway

City: Springfield State: IL Zip Code: 62764

Phone: 217 785-4246

Steven Gobelman
Printed Name:

Licensed Professional Engineer or Licensed Professional Geologist Signature:

6/4/13
Date:

STEVEN GOBELMAN
196-000598
LICENSED PROFESSIONAL GEOLOGIST
P.E. or L.P.G. Seal
STATE OF ILLINOIS

Analytical Data Summary
PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

Key to Data Tables

µg/kg = Micrograms per kilogram.
MAC = Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
mg/kg = Milligrams per kilogram.
mg/L = Milligrams per liter.
MSA = Metropolitan Statistical Area
µg/L = Micrograms per liter.
TCLP = Toxicity Characteristic Leaching Procedure.
SCGIER = Soil Component of the Groundwater Ingestion Exposure Route
SPLP = Synthetic Precipitation Leaching Procedure.
ND = Not detected.
NA = Not analyzed.
J = Estimated value.
B = Also present in blank.
U = Analyte was analyzed for but not detected.

Criteria Qualifiers

† = Concentration exceeds most stringent Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
m = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Metropolitan Statistical Areas.
* = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Chicago corporate limits.
c = Concentration exceeds a TACO Tier 1 RO for the Construction Worker Exposure Route.
L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the Soil Component of the Groundwater Ingestion Exposure Route (Class I groundwater) and the detected concentration is considered to exceed the MAC.

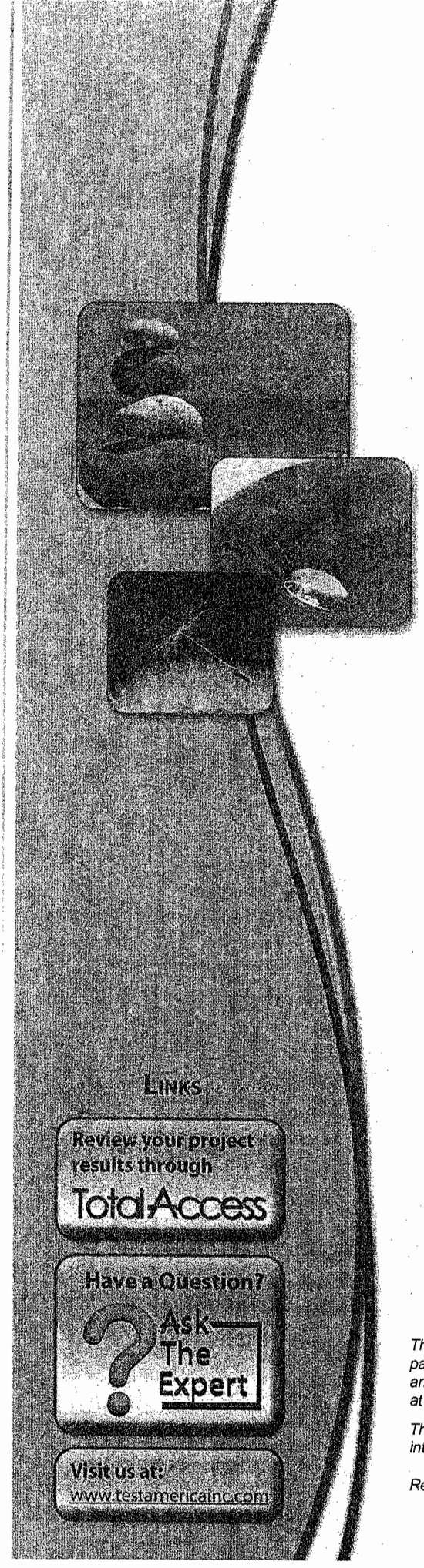
= Concentration exceeds the most Stringent MAC, but is below the MAC for an MSA.

= Soil: Concentration exceeds all applicable MACs.
Groundwater: Concentration exceeds the TACO Tier 1 RO for Class 1 groundwater.

PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

DETECTED CONTAMINANTS OF CONCERN

SITE	ISGS #2580-8 (Bryn Mawr Country Club)				Comparison Criteria		
BORING	E5108B06		E5108B11		MACs		TACO
SAMPLE	E5108B06 (2-4)	E5108B06 (8-10)	E5108B11 (4-6)	E5108B11 (8-10)			
MATRIX	Soil	Soil	Soil	Soil			
DEPTH (m)	0.6-1.2	2.4-3.1	1.2-1.8	2.4-3.1	Most Stringent	Within an MSA	SCGIER
pH	7.88	7.80	8.26	7.82			
VOCs (µg/kg)							
Acetone	ND U	6.2	ND U	ND U	25,000	--	--
SVOCs (µg/kg)							
Chrysene	ND U	17 J	ND U	13 J	88,000	--	--
Phenanthrene	ND U	22 J	ND U	ND U	--	--	--
Pyrene	ND U	20 J	ND U	ND U	2,300,000	--	--
Inorganics (mg/kg)							
Arsenic	6.3	8.0	6.5	5.0	11.3	13	--
Barium	49 BJ	38 BJ	54	26	1,500	--	--
Beryllium	0.69	0.62	0.63	0.55	22	--	--
Cadmium	0.31	0.68	0.71	0.63	5.2	--	--
Chromium	17	15	17	15	21	--	--
Cobalt	8.2	10	6.1	8.9	20	--	--
Copper	13	29	25	27	2,900	--	--
Iron	18,000 BJ †m	21,000 BJ †m	18,000 †m	17,000 †m	15,000	15900	--
Lead	13	13	11	12	107	--	--
Magnesium	3,500 BJ	22,000 BJ	25,000 BJ	24,000 BJ	325,000	--	--
Manganese	310 BJ	410 BJ	290	370	630	636	--
Mercury	0.019 J	0.027	0.029	0.030	0.89	--	--
Nickel	19	32	22	25	100	--	--
Selenium	0.30 J	ND U	ND U	ND U	1.3	--	--
Thallium	0.30 J	0.39 J	0.55	0.39 J	2.6	--	--
Vanadium	23	16	18	15	550	--	--
Zinc	41	44	38	39	5,100	--	--
TCLP Metals (mg/L)							
Barium	0.15 J	0.24 J	0.38 J	0.19 J	--	--	2
Cadmium	ND U	0.0023 J	0.0038 J	0.0036 J	--	--	0.005
Cobalt	ND U	ND U	0.0077 J	0.032	--	--	1
Copper	0.010 J	ND U	ND U	ND U	--	--	0.65
Lead	ND U	ND U	0.0054 J	ND U	--	--	0.0075
Manganese	0.043	0.40	1.7	3.8	--	--	0.15
Mercury	ND U	ND U	0.000039 JB	ND U	--	--	0.002
Nickel	ND U	ND U	0.011 J	0.024 J	--	--	0.1
Selenium	ND U	0.010 J	ND U	ND U	--	--	0.05
Zinc	0.029 J	0.032 J	ND U	ND U	--	--	5
SPLP Metals (mg/L)							
Manganese	NA	0.049	0.12	ND U	--	--	0.15



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-55551-1
Client Project/Site: IDOT - Skokie - WO 51

For:
Ecology and Environment, Inc.
33 West Monroe St.
Suite 550
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

Authorized for release by:
4/15/2013 11:07:37 AM

Richard Wright
Project Manager II
richard.wright@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (2-4)
Date Collected: 03/27/13 11:40
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-8
Matrix: Solid
Percent Solids: 82.5

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<5.7		5.7	1.2	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Vinyl chloride	<5.7		5.7	1.2	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Bromomethane	<5.7		5.7	1.7	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Chloroethane	<5.7		5.7	1.5	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,1-Dichloroethene	<5.7		5.7	0.92	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Carbon disulfide	<5.7		5.7	0.85	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Acetone	<5.7		5.7	2.5	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Methylene Chloride	<5.7		5.7	1.5	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
trans-1,2-Dichloroethene	<5.7		5.7	0.78	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Methyl tert-butyl ether	<5.7		5.7	0.94	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,1-Dichloroethane	<5.7		5.7	0.90	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
cis-1,2-Dichloroethene	<5.7		5.7	0.80	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Methyl Ethyl Ketone	<5.7		5.7	2.1	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Chloroform	<5.7		5.7	0.65	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,1,1-Trichloroethane	<5.7		5.7	0.85	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Carbon tetrachloride	<5.7		5.7	1.0	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Benzene	<5.7		5.7	0.78	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,2-Dichloroethane	<5.7		5.7	0.84	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Trichloroethene	<5.7		5.7	0.94	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,2-Dichloropropane	<5.7		5.7	0.86	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Bromodichloromethane	<5.7		5.7	0.98	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
cis-1,3-Dichloropropene	<5.7		5.7	0.74	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
methyl isobutyl ketone	<5.7		5.7	1.5	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Toluene	<5.7		5.7	0.79	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
trans-1,3-Dichloropropene	<5.7		5.7	1.0	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,1,2-Trichloroethane	<5.7		5.7	0.77	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Tetrachloroethene	<5.7		5.7	0.87	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
2-Hexanone	<5.7		5.7	1.6	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Dibromochloromethane	<5.7		5.7	0.99	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Chlorobenzene	<5.7		5.7	0.58	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Ethylbenzene	<5.7		5.7	1.1	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Styrene	<5.7		5.7	0.74	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Bromoform	<5.7		5.7	1.3	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,1,2,2-Tetrachloroethane	<5.7		5.7	1.1	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
Xylenes, Total	<11		11	0.51	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1
1,3-Dichloropropene, Total	<5.7		5.7	0.74	ug/Kg	☼	03/27/13 11:40	04/03/13 01:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 134*	*03/27/13 11:40*	*04/03/13 01:39*	*1*
Toluene-d8 (Surr)	*107*		*75 - 122*	*03/27/13 11:40*	*04/03/13 01:39*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 122*	*03/27/13 11:40*	*04/03/13 01:39*	*1*
Dibromofluoromethane	*103*		*75 - 120*	*03/27/13 11:40*	*04/03/13 01:39*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<200		200	62	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Bis(2-chloroethyl)ether	<200		200	58	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
1,3-Dichlorobenzene	<200		200	41	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
1,4-Dichlorobenzene	<200		200	41	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
1,2-Dichlorobenzene	<200		200	43	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (2-4)
Date Collected: 03/27/13 11:40
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-8
Matrix: Solid
Percent Solids: 82.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<200		200	52	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,2'-oxybis[1-chloropropane]	<200		200	43	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
N-Nitrosodi-n-propylamine	<200		200	49	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Hexachloroethane	<200		200	42	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2-Chlorophenol	<200		200	56	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Nitrobenzene	<39		39	12	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Bis(2-chloroethoxy)methane	<200		200	43	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
1,2,4-Trichlorobenzene	<200		200	44	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Isophorone	<200		200	43	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4-Dimethylphenol	<390		390	120	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Hexachlorobutadiene	<200		200	51	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Naphthalene	<39		39	7.5	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4-Dichlorophenol	<390		390	120	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Chloroaniline	<790		790	120	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4,6-Trichlorophenol	<390		390	49	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4,5-Trichlorophenol	<390		390	110	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Hexachlorocyclopentadiene	<790		790	180	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2-Methylnaphthalene	<200		200	51	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2-Nitroaniline	<200		200	70	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2-Chloronaphthalene	<200		200	44	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Chloro-3-methylphenol	<390		390	190	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,6-Dinitrotoluene	<200		200	46	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2-Nitrophenol	<390		390	61	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
3-Nitroaniline	<390		390	75	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Dimethyl phthalate	<200		200	49	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4-Dinitrophenol	<790		790	200	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Acenaphthylene	<39		39	8.9	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
2,4-Dinitrotoluene	<200		200	60	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Acenaphthene	<39		39	12	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Dibenzofuran	<200		200	47	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Nitrophenol	<790		790	210	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Fluorene	<39		39	8.9	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Nitroaniline	<390		390	80	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Bromophenyl phenyl ether	<200		200	44	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Hexachlorobenzene	<79		79	7.7	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Diethyl phthalate	<200		200	65	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4-Chlorophenyl phenyl ether	<200		200	61	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Pentachlorophenol	<790		790	200	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
N-Nitrosodiphenylamine	<200		200	53	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
4,6-Dinitro-2-methylphenol	<390		390	95	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Phenanthrene	<39		39	16	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Anthracene	<39		39	9.2	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Carbazole	<200		200	55	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Di-n-butyl phthalate	<200		200	49	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Fluoranthene	<39		39	16	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Pyrene	<39		39	14	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Butyl benzyl phthalate	<200		200	49	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Benzo[a]anthracene	<39		39	8.2	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Chrysene	<39		39	8.8	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (2-4)
Date Collected: 03/27/13 11:40
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-8
Matrix: Solid
Percent Solids: 82.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<200		200	32	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Bis(2-ethylhexyl) phthalate	<200		200	52	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Di-n-octyl phthalate	<200		200	79	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Benzo[b]fluoranthene	<39		39	7.6	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Benzo[k]fluoranthene	<39		39	9.3	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Benzo[a]pyrene	<39		39	7.1	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Indeno[1,2,3-cd]pyrene	<39		39	13	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Dibenz(a,h)anthracene	<39		39	11	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
Benzo[g,h,i]perylene	<39		39	13	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1
3 & 4 Methylphenol	<200		200	74	ug/Kg	☼	03/29/13 07:13	04/04/13 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*49*		*30 - 110*	*03/29/13 07:13*	*04/04/13 18:21*	*1*
Phenol-d5	*51*		*31 - 110*	*03/29/13 07:13*	*04/04/13 18:21*	*1*
Nitrobenzene-d5	*44*		*30 - 115*	*03/29/13 07:13*	*04/04/13 18:21*	*1*
2-Fluorobiphenyl	*46*		*30 - 119*	*03/29/13 07:13*	*04/04/13 18:21*	*1*
2,4,6-Tribromophenol	*51*		*35 - 137*	*03/29/13 07:13*	*04/04/13 18:21*	*1*
Terphenyl-d14	*61*		*36 - 134*	*03/29/13 07:13*	*04/04/13 18:21*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.15	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Arsenic	**6.3**		0.58	0.13	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Barium	**49**	B	0.58	0.069	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Beryllium	**0.69**		0.23	0.017	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Cadmium	**0.31**		0.12	0.029	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Chromium	**17**		0.58	0.097	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Cobalt	**8.2**		0.29	0.030	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Copper	**13**		0.58	0.16	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Iron	**18000**	B	12	5.0	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Lead	**13**		0.29	0.10	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Magnesium	**3500**	B	5.8	1.1	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Manganese	**310**	B	0.58	0.082	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Nickel	**19**		0.58	0.13	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Selenium	**0.30**	J	0.58	0.17	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Silver	<0.29		0.29	0.035	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Thallium	**0.30**	J	0.58	0.15	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Vanadium	**23**		0.29	0.044	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1
Zinc	**41**		1.2	0.40	mg/Kg	☼	03/28/13 16:00	03/30/13 04:39	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Barium	**0.15**	J	0.50	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/09/13 10:10	04/10/13 12:40	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		04/09/13 10:10	04/10/13 12:40	1
Chromium	<0.025		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Cobalt	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:40	1
Copper	**0.010**	J	0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Iron	<0.20		0.20	0.20	mg/L		04/09/13 10:10	04/10/13 12:40	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (2-4)
Date Collected: 03/27/13 11:40
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-8
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/09/13 10:10	04/10/13 12:40	1
Manganese	**0.043**		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Nickel	<0.025		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Selenium	<0.050		0.050	0.010	mg/L		04/09/13 10:10	04/10/13 12:40	1
Silver	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:40	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:40	1
Zinc	**0.029**	J	0.10	0.020	mg/L		04/09/13 10:10	04/10/13 12:40	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/09/13 10:10	04/10/13 17:21	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/09/13 10:10	04/10/13 17:21	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		04/08/13 16:00	04/09/13 11:45	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.019	J	0.020	0.0076	mg/Kg	☼	03/29/13 14:00	04/01/13 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.88		0.200	0.200	SU			04/08/13 14:16	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (8-10)
Date Collected: 03/27/13 11:45
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-9
Matrix: Solid
Percent Solids: 82.0

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<5.6		5.6	1.2	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Vinyl chloride	<5.6		5.6	1.2	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Bromomethane	<5.6		5.6	1.7	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Chloroethane	<5.6		5.6	1.5	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,1-Dichloroethene	<5.6		5.6	0.91	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Carbon disulfide	<5.6		5.6	0.84	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Acetone	**6.2**		5.6	2.4	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Methylene Chloride	<5.6		5.6	1.5	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
trans-1,2-Dichloroethene	<5.6		5.6	0.77	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Methyl tert-butyl ether	<5.6		5.6	0.93	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,1-Dichloroethane	<5.6		5.6	0.89	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
cis-1,2-Dichloroethene	<5.6		5.6	0.80	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Methyl Ethyl Ketone	<5.6		5.6	2.0	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Chloroform	<5.6		5.6	0.65	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,1,1-Trichloroethane	<5.6		5.6	0.84	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Carbon tetrachloride	<5.6		5.6	1.0	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Benzene	<5.6		5.6	0.77	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,2-Dichloroethane	<5.6		5.6	0.83	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Trichloroethene	<5.6		5.6	0.93	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,2-Dichloropropane	<5.6		5.6	0.85	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Bromodichloromethane	<5.6		5.6	0.97	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
cis-1,3-Dichloropropene	<5.6		5.6	0.74	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
methyl isobutyl ketone	<5.6		5.6	1.5	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Toluene	<5.6		5.6	0.79	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
trans-1,3-Dichloropropene	<5.6		5.6	1.0	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,1,2-Trichloroethane	<5.6		5.6	0.77	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Tetrachloroethene	<5.6		5.6	0.86	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
2-Hexanone	<5.6		5.6	1.6	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Dibromochloromethane	<5.6		5.6	0.98	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Chlorobenzene	<5.6		5.6	0.57	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Ethylbenzene	<5.6		5.6	1.1	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Styrene	<5.6		5.6	0.74	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Bromoform	<5.6		5.6	1.3	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,1,2,2-Tetrachloroethane	<5.6		5.6	1.1	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
Xylenes, Total	<11		11	0.51	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1
1,3-Dichloropropene, Total	<5.6		5.6	0.74	ug/Kg	☼	03/27/13 11:45	04/03/13 02:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 134*	*03/27/13 11:45*	*04/03/13 02:02*	*1*
Toluene-d8 (Surr)	*109*		*75 - 122*	*03/27/13 11:45*	*04/03/13 02:02*	*1*
4-Bromofluorobenzene (Surr)	*105*		*70 - 122*	*03/27/13 11:45*	*04/03/13 02:02*	*1*
Dibromofluoromethane	*107*		*75 - 120*	*03/27/13 11:45*	*04/03/13 02:02*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<200		200	64	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Bis(2-chloroethyl)ether	<200		200	60	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
1,3-Dichlorobenzene	<200		200	42	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
1,4-Dichlorobenzene	<200		200	42	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
1,2-Dichlorobenzene	<200		200	44	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (8-10)
Date Collected: 03/27/13 11:45
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-9
Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<200		200	54	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,2'-oxybis[1-chloropropane]	<200		200	45	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
N-Nitrosodi-n-propylamine	<200		200	51	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Hexachloroethane	<200		200	43	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2-Chlorophenol	<200		200	58	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Nitrobenzene	<40		40	13	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Bis(2-chloroethoxy)methane	<200		200	45	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
1,2,4-Trichlorobenzene	<200		200	46	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Isophorone	<200		200	45	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4-Dimethylphenol	<400		400	130	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Hexachlorobutadiene	<200		200	53	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Naphthalene	<40		40	7.8	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4-Dichlorophenol	<400		400	120	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Chloroaniline	<810		810	120	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4,6-Trichlorophenol	<400		400	51	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4,5-Trichlorophenol	<400		400	120	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Hexachlorocyclopentadiene	<810		810	190	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2-Methylnaphthalene	<200		200	52	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2-Nitroaniline	<200		200	73	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2-Chloronaphthalene	<200		200	45	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Chloro-3-methylphenol	<400		400	190	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,6-Dinitrotoluene	<200		200	48	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2-Nitrophenol	<400		400	63	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
3-Nitroaniline	<400		400	78	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Dimethyl phthalate	<200		200	50	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4-Dinitrophenol	<810		810	210	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Acenaphthylene	<40		40	9.3	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
2,4-Dinitrotoluene	<200		200	62	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Acenaphthene	<40		40	12	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Dibenzofuran	<200		200	48	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Nitrophenol	<810		810	220	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Fluorene	<40		40	9.2	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Nitroaniline	<400		400	83	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Bromophenyl phenyl ether	<200		200	45	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Hexachlorobenzene	<81		81	7.9	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Diethyl phthalate	<200		200	67	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4-Chlorophenyl phenyl ether	<200		200	64	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Pentachlorophenol	<810		810	210	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
N-Nitrosodiphenylamine	<200		200	55	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
4,6-Dinitro-2-methylphenol	<400		400	98	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Phenanthrene	**22**	**J**	40	17	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Anthracene	<40		40	9.5	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Carbazole	<200		200	57	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Di-n-butyl phthalate	<200		200	51	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Fluoranthene	<40		40	17	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Pyrene	**20**	**J**	40	15	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Butyl benzyl phthalate	<200		200	51	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Benzo[a]anthracene	<40		40	8.5	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Chrysene	**17**	**J**	40	9.1	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (8-10)
Date Collected: 03/27/13 11:45
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-9
Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<200		200	34	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Bis(2-ethylhexyl) phthalate	<200		200	53	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Di-n-octyl phthalate	<200		200	82	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Benzo[b]fluoranthene	<40		40	7.8	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Benzo[k]fluoranthene	<40		40	9.6	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Benzo[a]pyrene	<40		40	7.4	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Indeno[1,2,3-cd]pyrene	<40		40	14	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Dibenz(a,h)anthracene	<40		40	11	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
Benzo[g,h,i]perylene	<40		40	14	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1
3 & 4 Methylphenol	<200		200	76	ug/Kg	☼	03/29/13 07:13	04/04/13 20:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*65*		*30 - 110*	*03/29/13 07:13*	*04/04/13 20:51*	*1*
Phenol-d5	*65*		*31 - 110*	*03/29/13 07:13*	*04/04/13 20:51*	*1*
Nitrobenzene-d5	*54*		*30 - 115*	*03/29/13 07:13*	*04/04/13 20:51*	*1*
2-Fluorobiphenyl	*62*		*30 - 119*	*03/29/13 07:13*	*04/04/13 20:51*	*1*
2,4,6-Tribromophenol	*62*		*35 - 137*	*03/29/13 07:13*	*04/04/13 20:51*	*1*
Terphenyl-d14	*75*		*36 - 134*	*03/29/13 07:13*	*04/04/13 20:51*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.16	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Arsenic	**8.0**		0.61	0.13	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Barium	**38**	**B**	0.61	0.072	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Beryllium	**0.62**		0.24	0.018	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Cadmium	**0.68**		0.12	0.030	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Chromium	**15**		0.61	0.10	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Cobalt	**10**		0.30	0.032	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Copper	**29**		0.61	0.16	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Iron	**21000**	**B**	12	5.3	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Lead	**13**		0.30	0.10	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Magnesium	**22000**	**B**	6.1	1.2	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Manganese	**410**	**B**	0.61	0.086	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Nickel	**32**		0.61	0.13	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Selenium	<0.61		0.61	0.17	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Silver	<0.30		0.30	0.037	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Thallium	**0.39**	**J**	0.61	0.16	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Vanadium	**16**		0.30	0.046	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1
Zinc	**44**		1.2	0.42	mg/Kg	☼	03/28/13 16:00	03/30/13 04:45	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Barium	**0.24**	**J**	0.50	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/09/13 10:10	04/10/13 12:45	1
Cadmium	**0.0023**	**J**	0.0050	0.0020	mg/L		04/09/13 10:10	04/10/13 12:45	1
Chromium	<0.025		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Cobalt	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:45	1
Copper	<0.025		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Iron	<0.20		0.20	0.20	mg/L		04/09/13 10:10	04/10/13 12:45	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Client Sample ID: E5108B06 (8-10)
Date Collected: 03/27/13 11:45
Date Received: 03/28/13 12:04

Lab Sample ID: 500-55551-9
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/09/13 10:10	04/10/13 12:45	1
Manganese	**0.40**		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Nickel	<0.025		0.025	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Selenium	**0.010**	J	0.050	0.010	mg/L		04/09/13 10:10	04/10/13 12:45	1
Silver	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:45	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/09/13 10:10	04/10/13 12:45	1
Zinc	**0.032**	J	0.10	0.020	mg/L		04/09/13 10:10	04/10/13 12:45	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.049**		0.025	0.010	mg/L		04/12/13 08:30	04/12/13 23:50	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/09/13 10:10	04/10/13 17:23	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/09/13 10:10	04/10/13 17:23	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000020	mg/L		04/08/13 16:00	04/09/13 11:47	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.027**		0.017	0.0067	mg/Kg	☼	03/29/13 14:00	04/01/13 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.80**		0.200	0.200	SU			04/08/13 14:18	1

Definitions/Glossary

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits
F	RPD of the MS and MSD exceeds the control limits
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55551-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-13
California	NELAP	9	01132CA	04-30-13
Georgia	State Program	4	N/A	04-30-13
Georgia	State Program	4	939	04-30-13
Hawaii	State Program	9	N/A	04-30-13
Illinois	NELAP	5	100201	04-30-13
Indiana	State Program	5	C-IL-02	04-30-13
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-13
Massachusetts	State Program	1	M-IL035	06-30-13
Mississippi	State Program	4	N/A	04-30-13
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-13
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	04-30-13
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Virginia	NELAP	3	460142	06-14-13
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	04-30-13

TestAmerica

500-55551 Chain of Custody

Report To (optional)		Bill To (optional)	
Contact:	Scott Cooper	Contact:	
Company:		Company:	
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Chain of Custody Record

Lab Job #: 500-55551

Chain of Custody Number: E751-07

Page 1 of 1

Temperature °C of Cooler: (4.0)(3.6)

Client: Ecology Environment	Client Project #: EE-004733-0001-01770
Project Name: Crawford Ave	
Project Location/State: Cook Co, IL	Lab Project #: 50007806
Sampler: Scott Cooper	Lab PM: Dick Wright

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC	SVOC	Total TAL metals	TCLP/SPLP TAL metals	pH/% solids					Comments
1		E5108B08(2-4)	3-27-13	1025	2	S	X	X	X	X	X					
2		E5108B08(8-10)	3-27-13	1030	2	S	X	X	X	X	X					
3		E5108B07(0-2)	3-27-13	1040	2	S	X	X	X	X	X					
4		E5108B07D(0-2)	3-27-13	1040	2	S	X	X	X	X	X					
5		E5108B07(6-8)	3-27-13	1050	2	S	X	X	X	X	X					
6		E5109B03(4-6)	3-27-13	1110	2	S	X	X	X	X	X					
7		E5109B03(10-12)	3-27-13	1115	2	S	X	X	X	X	X					
8		E5108B06(2-4)	3-27-13	1140	2	S	X	X	X	X	X					
9		E5108B06(8-10)	3-27-13	1145	2	S	X	X	X	X	X					
10		E5108B05(0-2)	3-27-13	1205	2	S	X	X	X	X	X					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ✓ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	E-E	3-28-13	1000	[signature]	TAC	3-28-13	1000
[signature]	TAC	3-28-13	1204	[signature]	TA	3/28/13	1204

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

4/15/2013

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional) Report To		(optional) Bill To	
Contact:	Scott Cooper	Contact:	
Company:		Company:	
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Chain of Custody Record

Lab Job #: 500-55551

Chain of Custody Number: E751-08

Page 1 of 1

Temperature °C of Cooler:

Client: Ecology & Environment
Client Project #: EE-004333-0001-01TTO
Project Name: Crawford Ave
Project Location/State: Cook Co, IL
Lab Project #: 50007806
Sampler: Scott Cooper
Lab PM: Dick Wright

Preservative Parameter

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC	SVOC	Total TAC Metals	TCLP/SPLP TAC Metals	pH/% Solids					Comments
11		ES108B05(4-6)	3-27-13	1215	2	S	X	X	X	X	X					
12		ES108B04(2-4)	3-27-13	1230	2	S	X	X	X	X	X					
13		ES108B04(6-8)	3-27-13	1235	2	S	X	X	X	X	X					
14		ES108B03(0-2)	3-27-13	1305	2	S	X	X	X	X	X					
15		ES108B03(8-10)	3-27-13	1310	2	S	X	X	X	X	X					
16		ES110B01(2-4)	3-27-13	1320	2	S	X	X	X	X	X					
17		ES110B01(10-12)	3-27-13	1325	2	S	X	X	X	X	X					
18		ES111B03(0-2)	3-27-13	1340	2	S	X	X	X	X	X					
19		ES111B03(4-6)	3-27-13	1345	2	S	X	X	X	X	X					
20		ES109B04(0-2)	3-27-13	1400	2	S	X	X	X	X	X					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ✓ 15 Days ___ Other
Requested Due Date ___

Sample Disposal
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	EE	3-28-13	1000	[signature]	TA	3-28-13	1000
[signature]	TA	3-28-13	1204	[signature]	TA	3/28/13	1204

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

4/15/2013

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Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: ISGS #2580-9 (Residences) Office Phone Number, if available: _____

Physical Site Location (address, incldluding number and street):

3965-3970 W. Albion Avenue, 3959-3960 W. Arthur Drive, 6509-6657 N. Crawford Avenue, 3958-3959 W. Loyola Avenue, and

City: Lincolnwood State: IL Zip Code: 60712

County: Cook Township: Niles

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.00086 (Decimal Degrees) Longitude: -87.72870 (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: _____ BOW: _____ BOA: _____

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Illinois Department of Transportation	Name:	
Street Address:	201 West Center Court	Street Address:	
PO Box:		PO Box:	
City:	Schaumburg State: IL	City:	State:
Zip Code:	60196-1096 Phone: 847-705-4159	Zip Code:	Phone:
Contact:	Sam Mead	Contact:	
Email, if available:	Sam.Mead@illinois.gov	Email, if available:	

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: ISGS #2580-9 (Residences)

Latitude: 42.00086 Longitude: -87.72870

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

Location E5109B02 was sampled within the construction zone adjacent to the site. Refer to PSI Report Section 4.2.1 and Section 4.3.1 ISGS #2580-9 (Residences), Figure 3-2 and Table 4-4.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

See attached data summary table and associated laboratory data package 500-55511-1.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Steven Gobelman (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: IDOT

Street Address: 2300 South Dirksen Parkway

City: Springfield State: IL Zip Code: 62764

Phone: 217 785-4246

Steven Gobelman
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

6/4/13
Date:

STEVEN GOBELMAN
196-000598
LICENSED PROFESSIONAL GEOLOGIST
STATE OF ILLINOIS

P.E. or L.P.G. Seal:

Analytical Data Summary
PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

Key to Data Tables

µg/kg = Micrograms per kilogram.
MAC = Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
mg/kg = Milligrams per kilogram.
mg/L = Milligrams per liter.
MSA = Metropolitan Statistical Area
µg/L = Micrograms per liter.
TCLP = Toxicity Characteristic Leaching Procedure.
SCGIER = Soil Component of the Groundwater Ingestion Exposure Route
SPLP = Synthetic Precipitation Leaching Procedure.
ND = Not detected.
NA = Not analyzed.
J = Estimated value.
B = Also present in blank.
U = Analyte was analyzed for but not detected.

Criteria Qualifiers

† = Concentration exceeds most stringent Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations
m = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Metropolitan Statistical Areas.
* = Concentration exceeds the Maximum Allowable Concentration of Chemical Constituent in Uncontaminated Soil Used as Fill Material At Regulated Fill Operations for Chicago corporate limits.

c = Concentration exceeds a TACO Tier 1 RO for the Construction Worker Exposure Route.
L = The detected TCLP/SPLP concentration exceeds the TACO Tier 1 RO for the Soil Component of the Groundwater Ingestion Exposure Route (Class I groundwater) AND the total concentration exceeds the MAC.

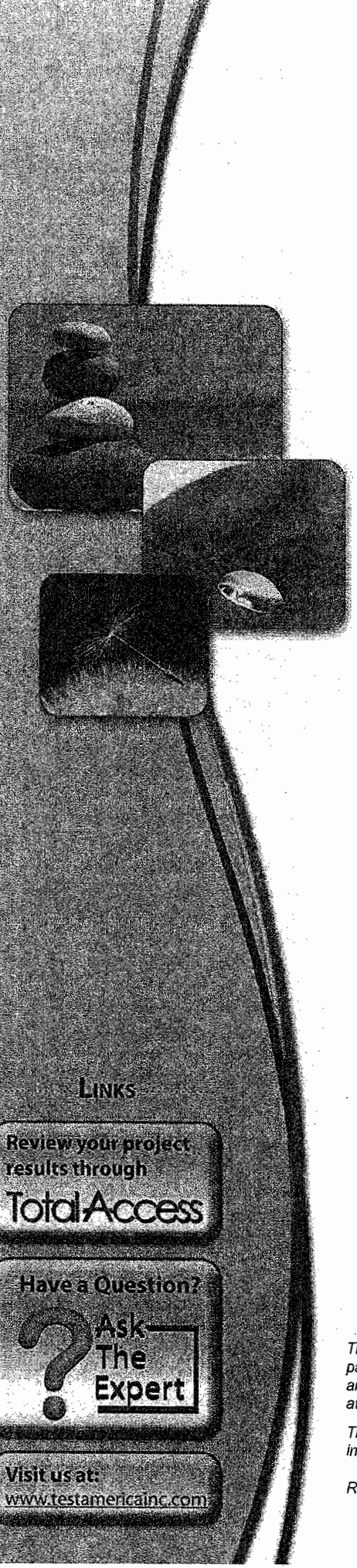
= Concentration exceeds the most Stringent MAC, but is below the MAC for an MSA.

= Soil: Concentration exceeds all applicable MACs.
Groundwater: Concentration exceeds the TACO Tier 1 RO for Class 1 groundwater.

PTB #162-32; Work Order 51 - IDOT Job # P-91-138-11

DETECTED CONTAMINANTS OF CONCERN

SITE	ISGS #2580-9 (Residences)		Comparison Criteria		
BORING	E5109B02		MACs		TACO
SAMPLE	E5109B02 (2-4)	E5109B02 (8-10)	Most Stringent	Within an MSA	SCGIER
MATRIX	Soil	Soil			
DEPTH (m)	0.6-1.2	2.4-3.1			
pH	8.20	8.52			
VOCs (µg/kg) - None Detected					
SVOCs (µg/kg)					
Benzo[b]fluoranthene	**30 J**	ND U	900	2,100	--
Benzo[g,h,i]perylene	**21 J**	**18 J**	--	--	--
Benzo[k]fluoranthene	**12 J**	ND U	9,000	--	--
Chrysene	**21 J**	**13 J**	88,000	--	--
Fluoranthene	**38 J**	ND U	3,100,000	--	--
Indeno[1,2,3-cd]pyrene	**15 J**	ND U	900	1600	--
Pyrene	**30 J**	ND U	2,300,000	--	--
Inorganics (mg/kg)					
Arsenic	**5.4**	**6.3**	11.3	13	--
Barium	**54**	**33**	1,500	--	--
Beryllium	**0.51**	**0.66**	22	--	--
Cadmium	**0.41**	**0.67**	5.2	--	--
Chromium	**11**	**17**	21	--	--
Cobalt	**4.0**	**9.5**	20	--	--
Copper	**16**	**30**	2,900	--	--
Iron	**11,000**	**19,000 †m**	15,000	15900	--
Lead	**15**	**12**	107	--	--
Magnesium	**3,800 BJ**	**22,000 BJ**	325,000	--	--
Manganese	**190**	**450**	630	636	--
Mercury	**0.055**	**0.027**	0.89	--	--
Nickel	**11**	**31**	100	--	--
Selenium	**0.57 J**	ND U	1.3	--	--
Thallium	**0.48 J**	**0.47 J**	2.6	--	--
Vanadium	**15**	**18**	550	--	--
Zinc	**40**	**41**	5,100	--	--
TCLP Metals (mg/L)					
Barium	**0.17 J**	**0.20 J**	--	--	2
Cadmium	ND U	**0.0038 J**	--	--	0.005
Cobalt	ND U	**0.062**	--	--	1
Iron	**0.21**	ND U	--	--	5
Manganese	**0.12**	**4.0**	--	--	0.15
Nickel	ND U	**0.036**	--	--	0.1
Selenium	**0.011 J**	ND U	--	--	0.05
SPLP Metals (mg/L)					
Manganese	NA	**0.14**	--	--	0.15



LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-55511-1
Client Project/Site: IDOT - Skokie - WO 51

For:
Ecology and Environment, Inc.
33 West Monroe St.
Suite 550
Chicago, Illinois 60603

Attn: Mr. Dean Tiebout

Authorized for release by:
4/11/2013 10:48:37 AM

Richard Wright
Project Manager II
richard.wright@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (2-4)
Date Collected: 03/27/13 08:00
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-1
Matrix: Solid
Percent Solids: 80.6

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<6.6		6.6	1.4	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Vinyl chloride	<6.6		6.6	1.4	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Bromomethane	<6.6		6.6	2.0	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Chloroethane	<6.6		6.6	1.8	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,1-Dichloroethene	<6.6		6.6	1.1	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Carbon disulfide	<6.6		6.6	0.99	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Acetone	<6.6		6.6	2.9	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Methylene Chloride	<6.6		6.6	1.8	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
trans-1,2-Dichloroethene	<6.6		6.6	0.91	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Methyl tert-butyl ether	<6.6		6.6	1.1	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,1-Dichloroethane	<6.6		6.6	1.0	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
cis-1,2-Dichloroethene	<6.6		6.6	0.94	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Methyl Ethyl Ketone	<6.6		6.6	2.4	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Chloroform	<6.6		6.6	0.76	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,1,1-Trichloroethane	<6.6		6.6	0.99	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Carbon tetrachloride	<6.6		6.6	1.2	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Benzene	<6.6		6.6	0.91	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,2-Dichloroethane	<6.6		6.6	0.98	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Trichloroethene	<6.6		6.6	1.1	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,2-Dichloropropane	<6.6		6.6	1.0	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Bromodichloromethane	<6.6		6.6	1.1	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
cis-1,3-Dichloropropene	<6.6		6.6	0.87	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
methyl isobutyl ketone	<6.6		6.6	1.7	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Toluene	<6.6		6.6	0.93	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
trans-1,3-Dichloropropene	<6.6		6.6	1.2	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,1,2-Trichloroethane	<6.6		6.6	0.90	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Tetrachloroethene	<6.6		6.6	1.0	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
2-Hexanone	<6.6		6.6	1.9	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Dibromochloromethane	<6.6		6.6	1.2	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Chlorobenzene	<6.6		6.6	0.67	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Ethylbenzene	<6.6		6.6	1.3	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Styrene	<6.6		6.6	0.87	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Bromoform	<6.6		6.6	1.5	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,1,2,2-Tetrachloroethane	<6.6	*	6.6	1.3	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
Xylenes, Total	<13		13	0.60	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1
1,3-Dichloropropene, Total	<6.6		6.6	0.87	ug/Kg	☼	03/27/13 08:00	04/03/13 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 134*	*03/27/13 08:00*	*04/03/13 18:18*	*1*
Toluene-d8 (Surr)	*110*		*75 - 122*	*03/27/13 08:00*	*04/03/13 18:18*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 122*	*03/27/13 08:00*	*04/03/13 18:18*	*1*
Dibromofluoromethane	*114*		*75 - 120*	*03/27/13 08:00*	*04/03/13 18:18*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<200		200	63	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Bis(2-chloroethyl)ether	<200		200	59	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
1,3-Dichlorobenzene	<200		200	42	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
1,4-Dichlorobenzene	<200		200	42	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
1,2-Dichlorobenzene	<200		200	43	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (2-4)
Date Collected: 03/27/13 08:00
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-1
Matrix: Solid
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<200		200	53	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,2'-oxybis[1-chloropropane]	<200		200	44	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
N-Nitrosodi-n-propylamine	<200		200	50	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Hexachloroethane	<200		200	42	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2-Chlorophenol	<200		200	57	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Nitrobenzene	<39		39	12	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Bis(2-chloroethoxy)methane	<200		200	44	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
1,2,4-Trichlorobenzene	<200		200	45	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Isophorone	<200		200	44	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4-Dimethylphenol	<390		390	120	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Hexachlorobutadiene	<200		200	52	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Naphthalene	<39		39	7.6	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4-Dichlorophenol	<390		390	120	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Chloroaniline	<800		800	120	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4,6-Trichlorophenol	<390		390	50	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4,5-Trichlorophenol	<390		390	110	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Hexachlorocyclopentadiene	<800		800	180	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2-Methylnaphthalene	<200		200	51	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2-Nitroaniline	<200		200	71	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2-Chloronaphthalene	<200		200	45	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Chloro-3-methylphenol	<390		390	190	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,6-Dinitrotoluene	<200		200	47	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2-Nitrophenol	<390		390	62	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
3-Nitroaniline	<390		390	76	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Dimethyl phthalate	<200		200	49	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4-Dinitrophenol	<800	*	800	200	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Acenaphthylene	<39		39	9.1	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
2,4-Dinitrotoluene	<200		200	61	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Acenaphthene	<39		39	12	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Dibenzofuran	<200		200	48	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Nitrophenol	<800		800	210	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Fluorene	<39		39	9.0	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Nitroaniline	<390		390	81	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Bromophenyl phenyl ether	<200		200	44	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Hexachlorobenzene	<80		80	7.8	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Diethyl phthalate	<200		200	66	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4-Chlorophenyl phenyl ether	<200		200	62	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Pentachlorophenol	<800	*	800	200	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
N-Nitrosodiphenylamine	<200		200	54	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
4,6-Dinitro-2-methylphenol	<390		390	96	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Phenanthrene	<39		39	17	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Anthracene	<39		39	9.3	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Carbazole	<200		200	56	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Di-n-butyl phthalate	<200		200	50	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Fluoranthene	**38**	**J**	39	16	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Pyrene	**30**	**J**	39	14	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Butyl benzyl phthalate	<200		200	50	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Benzo[a]anthracene	**19**	**J**	39	8.3	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Chrysene	**21**	**J**	39	8.9	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (2-4)
Date Collected: 03/27/13 08:00
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-1
Matrix: Solid
Percent Solids: 80.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<200		200	33	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Bis(2-ethylhexyl) phthalate	<200		200	52	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Di-n-octyl phthalate	<200		200	80	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Benzo[b]fluoranthene	**30**	**J**	39	7.7	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Benzo[k]fluoranthene	**12**	**J**	39	9.4	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Benzo[a]pyrene	**20**	**J**	39	7.2	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Indeno[1,2,3-cd]pyrene	**15**	**J**	39	13	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Dibenz(a,h)anthracene	<39		39	11	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
Benzo[g,h,i]perylene	**21**	**J**	39	13	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1
3 & 4 Methylphenol	<200		200	75	ug/Kg	☼	03/28/13 17:09	04/03/13 20:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*44*		*30 - 110*	*03/28/13 17:09*	*04/03/13 20:56*	*1*
Phenol-d5	*52*		*31 - 110*	*03/28/13 17:09*	*04/03/13 20:56*	*1*
Nitrobenzene-d5	*49*		*30 - 115*	*03/28/13 17:09*	*04/03/13 20:56*	*1*
2-Fluorobiphenyl	*61*		*30 - 119*	*03/28/13 17:09*	*04/03/13 20:56*	*1*
2,4,6-Tribromophenol	*68*		*35 - 137*	*03/28/13 17:09*	*04/03/13 20:56*	*1*
Terphenyl-d14	*53*		*36 - 134*	*03/28/13 17:09*	*04/03/13 20:56*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.16	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Arsenic	**5.4**		0.60	0.13	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Barium	**54**		0.60	0.071	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Beryllium	**0.51**		0.24	0.017	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Cadmium	**0.41**		0.12	0.030	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Chromium	**11**		0.60	0.10	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Cobalt	**4.0**		0.30	0.031	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Copper	**16**		0.60	0.16	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Iron	**11000**		12	5.2	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Lead	**15**		0.30	0.10	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Magnesium	**3800**	**B**	6.0	1.2	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Manganese	**190**		0.60	0.084	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Nickel	**11**		0.60	0.13	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Selenium	**0.57**	**J**	0.60	0.17	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Silver	<0.30		0.30	0.036	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Thallium	**0.48**	**J**	0.60	0.15	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Vanadium	**15**		0.30	0.045	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1
Zinc	**40**		1.2	0.41	mg/Kg	☼	03/27/13 16:30	03/29/13 22:45	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Barium	**0.17**	**J**	0.50	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/04/13 10:30	04/04/13 19:54	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		04/04/13 10:30	04/04/13 19:54	1
Chromium	<0.025		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Cobalt	<0.025		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 19:54	1
Copper	<0.025		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Iron	**0.21**		0.20	0.20	mg/L		04/04/13 10:30	04/04/13 19:54	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (2-4)
Date Collected: 03/27/13 08:00
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-1
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/04/13 10:30	04/04/13 19:54	1
Manganese	**0.12**		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Nickel	<0.025		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Selenium	**0.011**	J	0.050	0.010	mg/L		04/04/13 10:30	04/04/13 19:54	1
Silver	<0.025		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 19:54	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 19:54	1
Zinc	<0.10		0.10	0.020	mg/L		04/04/13 10:30	04/04/13 19:54	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/04/13 10:30	04/08/13 17:36	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/04/13 10:30	04/08/13 17:36	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000043**	J B	0.00020	0.000020	mg/L		04/04/13 14:30	04/05/13 09:39	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.055**		0.020	0.0076	mg/Kg	☼	03/28/13 14:30	03/29/13 11:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.20**		0.200	0.200	SU			04/04/13 17:02	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (8-10)
Date Collected: 03/27/13 08:05
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-2
Matrix: Solid
Percent Solids: 83.5

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	<5.3		5.3	1.1	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Vinyl chloride	<5.3		5.3	1.1	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Bromomethane	<5.3		5.3	1.6	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Chloroethane	<5.3		5.3	1.4	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,1-Dichloroethene	<5.3		5.3	0.86	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Carbon disulfide	<5.3		5.3	0.79	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Acetone	<5.3		5.3	2.3	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Methylene Chloride	<5.3		5.3	1.4	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
trans-1,2-Dichloroethene	<5.3		5.3	0.73	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Methyl tert-butyl ether	<5.3		5.3	0.87	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,1-Dichloroethane	<5.3		5.3	0.84	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
cis-1,2-Dichloroethene	<5.3		5.3	0.75	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Methyl Ethyl Ketone	<5.3		5.3	1.9	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Chloroform	<5.3		5.3	0.61	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,1,1-Trichloroethane	<5.3		5.3	0.79	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Carbon tetrachloride	<5.3		5.3	0.96	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Benzene	<5.3		5.3	0.72	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,2-Dichloroethane	<5.3		5.3	0.78	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Trichloroethene	<5.3		5.3	0.87	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,2-Dichloropropane	<5.3		5.3	0.80	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Bromodichloromethane	<5.3		5.3	0.91	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
cis-1,3-Dichloropropene	<5.3		5.3	0.69	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
methyl isobutyl ketone	<5.3		5.3	1.4	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Toluene	<5.3		5.3	0.74	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
trans-1,3-Dichloropropene	<5.3		5.3	0.95	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,1,2-Trichloroethane	<5.3		5.3	0.72	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Tetrachloroethene	<5.3		5.3	0.81	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
2-Hexanone	<5.3		5.3	1.5	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Dibromochloromethane	<5.3		5.3	0.92	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Chlorobenzene	<5.3		5.3	0.54	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Ethylbenzene	<5.3		5.3	1.1	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Styrene	<5.3		5.3	0.69	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Bromoform	<5.3		5.3	1.2	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,1,2,2-Tetrachloroethane	<5.3	*	5.3	1.1	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
Xylenes, Total	<11		11	0.48	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1
1,3-Dichloropropene, Total	<5.3		5.3	0.69	ug/Kg	☼	03/27/13 08:05	04/03/13 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 134*	*03/27/13 08:05*	*04/03/13 18:42*	*1*
Toluene-d8 (Surr)	*105*		*75 - 122*	*03/27/13 08:05*	*04/03/13 18:42*	*1*
4-Bromofluorobenzene (Surr)	*108*		*70 - 122*	*03/27/13 08:05*	*04/03/13 18:42*	*1*
Dibromofluoromethane	*113*		*75 - 120*	*03/27/13 08:05*	*04/03/13 18:42*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	<190		190	59	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Bis(2-chloroethyl)ether	<190		190	55	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
1,3-Dichlorobenzene	<190		190	39	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
1,4-Dichlorobenzene	<190		190	39	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
1,2-Dichlorobenzene	<190		190	41	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (8-10)
Date Collected: 03/27/13 08:05
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-2
Matrix: Solid
Percent Solids: 83.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	<190		190	50	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,2'-oxybis[1-chloropropane]	<190		190	41	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
N-Nitrosodi-n-propylamine	<190		190	48	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Hexachloroethane	<190		190	40	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2-Chlorophenol	<190		190	54	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Nitrobenzene	<37		37	12	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Bis(2-chloroethoxy)methane	<190		190	41	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
1,2,4-Trichlorobenzene	<190		190	42	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Isophorone	<190		190	42	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4-Dimethylphenol	<370		370	120	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Hexachlorobutadiene	<190		190	49	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Naphthalene	<37		37	7.2	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4-Dichlorophenol	<370		370	110	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Chloroaniline	<750		750	110	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4,6-Trichlorophenol	<370		370	47	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4,5-Trichlorophenol	<370		370	110	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Hexachlorocyclopentadiene	<750		750	170	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2-Methylnaphthalene	<190		190	49	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2-Nitroaniline	<190		190	67	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2-Chloronaphthalene	<190		190	42	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Chloro-3-methylphenol	<370		370	180	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,6-Dinitrotoluene	<190		190	45	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2-Nitrophenol	<370		370	59	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
3-Nitroaniline	<370		370	72	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Dimethyl phthalate	<190		190	47	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4-Dinitrophenol	<750	*	750	190	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Acenaphthylene	<37		37	8.6	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
2,4-Dinitrotoluene	<190		190	57	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Acenaphthene	<37		37	11	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Dibenzofuran	<190		190	45	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Nitrophenol	<750		750	200	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Fluorene	<37		37	8.5	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Nitroaniline	<370		370	77	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Bromophenyl phenyl ether	<190		190	42	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Hexachlorobenzene	<75		75	7.4	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Diethyl phthalate	<190		190	62	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4-Chlorophenyl phenyl ether	<190		190	59	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Pentachlorophenol	<750	*	750	190	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
N-Nitrosodiphenylamine	<190		190	51	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
4,6-Dinitro-2-methylphenol	<370		370	91	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Phenanthrene	<37		37	16	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Anthracene	<37		37	8.8	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Carbazole	<190		190	53	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Di-n-butyl phthalate	<190		190	47	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Fluoranthene	<37		37	15	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Pyrene	<37		37	14	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Butyl benzyl phthalate	<190		190	47	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Benzo[a]anthracene	<37		37	7.8	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Chrysene	**13**	**J**	37	8.5	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (8-10)
Date Collected: 03/27/13 08:05
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-2
Matrix: Solid
Percent Solids: 83.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	<190		190	31	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Bis(2-ethylhexyl) phthalate	<190		190	50	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Di-n-octyl phthalate	<190		190	76	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Benzo[b]fluoranthene	<37		37	7.3	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Benzo[k]fluoranthene	<37		37	8.9	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Benzo[a]pyrene	<37		37	6.8	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Indeno[1,2,3-cd]pyrene	<37		37	13	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Dibenz(a,h)anthracene	<37		37	10	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
Benzo[g,h,i]perylene	**18**	J	37	13	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1
3 & 4 Methylphenol	<190		190	71	ug/Kg	☼	03/28/13 17:09	04/03/13 21:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*43*		*30 - 110*	*03/28/13 17:09*	*04/03/13 21:17*	*1*
Phenol-d5	*42*		*31 - 110*	*03/28/13 17:09*	*04/03/13 21:17*	*1*
Nitrobenzene-d5	*48*		*30 - 115*	*03/28/13 17:09*	*04/03/13 21:17*	*1*
2-Fluorobiphenyl	*59*		*30 - 119*	*03/28/13 17:09*	*04/03/13 21:17*	*1*
2,4,6-Tribromophenol	*39*		*35 - 137*	*03/28/13 17:09*	*04/03/13 21:17*	*1*
Terphenyl-d14	*53*		*36 - 134*	*03/28/13 17:09*	*04/03/13 21:17*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.16	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Arsenic	**6.3**		0.60	0.13	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Barium	**33**		0.60	0.071	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Beryllium	**0.66**		0.24	0.018	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Cadmium	**0.67**		0.12	0.030	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Chromium	**17**		0.60	0.10	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Cobalt	**9.5**		0.30	0.031	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Copper	**30**		0.60	0.16	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Iron	**19000**		12	5.2	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Lead	**12**		0.30	0.10	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Magnesium	**22000**	B	6.0	1.2	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Manganese	**450**		0.60	0.084	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Nickel	**31**		0.60	0.13	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Selenium	<0.60		0.60	0.17	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Silver	<0.30		0.30	0.036	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Thallium	**0.47**	J	0.60	0.15	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Vanadium	**18**		0.30	0.045	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1
Zinc	**41**		1.2	0.41	mg/Kg	☼	03/27/13 16:30	03/29/13 22:51	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Barium	**0.20**	J	0.50	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		04/04/13 10:30	04/04/13 20:00	1
Cadmium	**0.0038**	J	0.0050	0.0020	mg/L		04/04/13 10:30	04/04/13 20:00	1
Chromium	<0.025		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Cobalt	**0.062**		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 20:00	1
Copper	<0.025		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Iron	<0.20		0.20	0.20	mg/L		04/04/13 10:30	04/04/13 20:00	1

Client Sample Results

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Client Sample ID: E5109B02 (8-10)
Date Collected: 03/27/13 08:05
Date Received: 03/27/13 11:20

Lab Sample ID: 500-55511-2
Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0050	mg/L		04/04/13 10:30	04/04/13 20:00	1
Manganese	**4.0**		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Nickel	**0.036**		0.025	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Selenium	<0.050		0.050	0.010	mg/L		04/04/13 10:30	04/04/13 20:00	1
Silver	<0.025		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 20:00	1
Vanadium	<0.025		0.025	0.0050	mg/L		04/04/13 10:30	04/04/13 20:00	1
Zinc	<0.10		0.10	0.020	mg/L		04/04/13 10:30	04/04/13 20:00	1

Method: 6010B - SPLP Metals - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.14**		0.025	0.010	mg/L		04/10/13 09:30	04/10/13 19:12	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0030	mg/L		04/04/13 10:30	04/08/13 17:39	1
Thallium	<0.0020		0.0020	0.0020	mg/L		04/04/13 10:30	04/08/13 17:39	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000042**	**J B**	0.00020	0.000020	mg/L		04/04/13 14:30	04/05/13 09:41	1

Method: 7471B - Mercury in Solid or Semisolid Waste (Manual Cold Vapor Technique)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.027**		0.018	0.0069	mg/Kg	☼	03/28/13 14:30	03/29/13 11:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.52**		0.200	0.200	SU			04/04/13 17:05	1

Definitions/Glossary

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F	MS or MSD exceeds the control limits

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
F	RPD of the MS and MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Ecology and Environment, Inc.
Project/Site: IDOT - Skokie - WO 51

TestAmerica Job ID: 500-55511-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-13
California	NELAP	9	01132CA	04-30-13
Georgia	State Program	4	N/A	04-30-13
Georgia	State Program	4	939	04-30-13
Hawaii	State Program	9	N/A	04-30-13
Illinois	NELAP	5	100201	04-30-13
Indiana	State Program	5	C-IL-02	04-30-13
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-13
Kentucky	State Program	4	90023	12-31-13
Louisiana	NELAP	6	30720	06-30-13
Massachusetts	State Program	1	M-IL035	06-30-13
Mississippi	State Program	4	N/A	04-30-13
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-13
Oklahoma	State Program	6	8908	08-31-13
South Carolina	State Program	4	77001	04-30-13
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Virginia	NELAP	3	460142	06-14-13
Wisconsin	State Program	5	999580010	08-31-13
Wyoming	State Program	8	8TMS-Q	04-30-13

TestAmerica

500-55511 Chain of Custody

Report To (optional)		Bill To (optional)	
Contact:	Scott Cooper	Contact:	
Company:		Company:	
Address:		Address:	
Address:		Address:	
Phone:		Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Chain of Custody Record

Lab Job #: 500-55511

Chain of Custody Number: E751-06

Page 1 of 1

Temperature °C of Cooler: 3.8

Client: Ecology Environmental	Client Project #: EE-004339-0001-01TTO
Project Name: Crawford Ave	
Project Location/State: Cook Co, FL	Lab Project #: 50007806
Sampler: Scott Cooper	Lab PM: Dick Wright

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC	SVOC	Total TAC metals	TCLP/SPLP TAC metals	pH/% Solids					Comments
1		ES109B02 (2-4)	3-27-13	0800	2	S	X	X	X	X	X					
2		ES109B02 (8-10)	3-27-13	0805	2	S	X	X	X	X	X					
3		ES109B01 (0-2)	3-27-13	0820	2	S	X	X	X	X	X					
4		ES109B01 (10-12)	3-27-13	0830	2	S	X	X	X	X	X					
5		ES108B11 (4-6)	3-27-13	0850	2	S	X	X	X	X	X					
6		ES108B11 (8-10)	3-27-13	0855	2	S	X	X	X	X	X					
7		ES108B10 (0-2)	3-27-13	0920	2	S	X	X	X	X	X					
8		ES108B10 (6-8)	3-27-13	0925	2	S	X	X	X	X	X					
9		ES108B09 (0-2)	3-27-13	0945	2	S	X	X	X	X	X					
10		ES108B09 (10-12)	3-27-13	0950	2	S	X	X	X	X	X					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ✓ 15 Days ___ Other
Requested Due Date ___

Sample Disposal
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	EE	3-27-13	0955	[signature]	TAL	3-27-13	0955
[signature]	TAL	3-27-13	1120	[signature]	TA	3/27/13	1120

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)
4/11/2013

AECOM
303 East Wacker Drive
Chicago, IL 60601
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312-373-7700 Tel
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July 8, 2013

Mr. Frank Williams, P.E., S.E.
Cook County Highway Department
69 W. Washington, Room # 2100
Chicago, Illinois 60602-1369

RE: Characterization of Soils from the Road Improvement Project along Crawford Avenue in Lincolnwood, Illinois - - AECOM Project No. 60275770

Attention: Robert F. Mack, P.E. – Drainage and Utilities Head

Dear Mr. Williams:

The Cook County Highway Department (CCHD) has a road improvement project at the above-referenced site. The CCHD would like to have the excess soils from this project taken to a Clean Construction and Demolition Debris (CCDD) facility. With the enactment of Public Act 96-1416 on July 30, 2010, these soils require a form (IEPA Form LPC-663) that indicates the material is CCDD compliant as defined in the regulations. The CCDD rules require that the soils are below the Maximum Allowable Concentrations (MACs) detailed in 35 IAC 1100. The IEPA form is now required in order for the material to be accepted at CCDD facilities.

AECOM was retained to assist in the characterization of the soil at the site. On September 20 and October 16, 2012 AECOM collected representative soil samples of the material. AECOM advanced 11 borings to a depth of approximately two feet below existing grade. The borings were conducted along the roadway in an attempt to generally characterize the soil beneath the proposed project area.

During the sample collection, AECOM used a photo-ionization detector (PID) to screen the soils. The PID is a trace gas analyzer which is calibrated to an isobutylene standard and has a minimum sensitivity of one part per million vapor concentration. The PID is capable of detecting volatile organic compounds with ionization potentials of 10.2 electron volts or less. In addition to the PID screening, visual and olfactory observations of the excavation and soils were also made to assist in the contamination screening. None of the recovered soil samples exhibited elevated PID readings, staining or odors.

AECOM collected one representative soil samples from each boring. The samples were placed in laboratory prepared containers, properly preserved and shipped under chain-of-custody control to a subcontract laboratory. Four of the samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and RCRA total and TCLP metals. Two of the samples were later analyzed for the full list of parameters listed in 35 IAC 1100. The remaining five samples were placed on hold for potential analysis.

Copies of the analytical results are attached for reference. Table 1 provides the approximate sample locations, the laboratory results and the MACs from 35 IAC 1100. A comparison of the laboratory results indicates that the VOCs and SVOCs concentrations were either below the laboratory's detection limits or the Tier 1 Cleanup Objectives in each of the samples analyzed.

The pH values on the two samples (B-7 and B-11) analyzed exceeded 9.0. Because each of the samples collected consisted of sand and limestone gravel, the pH analyses do not apply. Sample B-9 had an arsenic concentration of 16.1 which exceeds the MAC for arsenic of 13. Based on the laboratory results, the soil meets the criteria for clean fill, with the exception of the sample from boring B-9.

AECOM

AECOM has prepared the attached certification form (LPC-663) for those soils outside of the area of boring B-9. Figure 1 attached illustrates the area of soil that will be required to be managed at a subtitle D landfill highlighted in yellow.

AECOM appreciates the opportunity to assist the Cook County Highway Department on this project. Should you have any questions regarding this project, please contact the undersigned.

Sincerely,

Steven T. Newlin
Senior Project Geologist

Tony A. Kiefer, P.E.
Principal Engineer

Attachments:

Table 1 – Analytical Summary
Laboratory Report
IEPA Certification Form
Figure 1 – Soil Boring Location Diagram

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
ium Allowable oncentraton 1100 Subpart E)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
6.25-9	NT	NT	NT	10.6	NT	9.4
25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
0.03	< 0.002	< 0.002	**0.006**	< 0.002	< 0.002	< 0.002
0.6	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
0.8	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
9	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.3	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
23	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.4	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.7	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
13	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.32	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
4	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
NE	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.06	**0.008**	**0.011**	**0.008**	< 0.002	< 0.002	< 0.002
12	< 0.005	< 0.005	**0.013**	< 0.005	< 0.005	< 0.005
2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
0.06	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
0.01	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
5.6	< 0.005	< 0.005	**0.0007**	< 0.005	< 0.005	< 0.005

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
num Allowable oncentration (1100 Subpart E)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
570	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
NE	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
12,000	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
1.8	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
2.1	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
2.1	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
NE	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
9	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
88	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
0.42	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
3,100	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
560	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
1.6	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
1.8	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
NE	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
2,300	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066	< 0.066
NE	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
NE	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
46	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
930	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.0018	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.6	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
0.02	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
0.7	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
1.5	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
17	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
2	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
0.48	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
aum Allowable ncentration 1100 Subpart L)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
9	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
3.3	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.25	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.26	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,600	< 0.86	< 0.86	< 0.86	< 0.86	< 0.86	< 0.86
0.4	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
1.1	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.5	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
8	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
15	< 2.3	< 2.3	< 2.3	< 2.3	< 2.3	< 2.3
NE	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
NE	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
NE	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
NE	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
NE	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
NE	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3	< 3.3
0.26	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
1	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67	< 0.67
100	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
26	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
0.013	**NT**	**NT**	**NT**	<0.8	**NT**	<0.8
0.22	**NT**	**NT**	**NT**	<0.39	**NT**	<0.39

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
aum Allowable ncentration 100 Subpart E)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
13	**8.1**	**5.2**	**6.1**	**4.2**	**16.1**	**6.5**
1,500	**49.8**	**52.2**	**52.9**	**22.1**	**208**	**39.9**
5.2	**1.4**	**2.0**	**1**	**0.6**	**2.1**	**1.5**
21	**18.2**	**20.4**	**17.7**	**10.1**	**13.8**	**19.2**
107	**13.5**	**16.8**	**14.2**	**6.2**	**12.6**	**13.6**
0.89	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	**0.06**
1.3	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
NE	**0.005**	<0.002	**0.015**	**NT**	**NT**	**NT**
NE	<1	<1	<1	**NT**	**NT**	**NT**
NE	**0.002**	**0.002**	**0.002**	**NT**	**NT**	**NT**
NE	**0.003**	**0.002**	**0.005**	**NT**	**NT**	**NT**
NE	<0.002	<0.002	<0.002	**NT**	**NT**	**NT**
NE	<0.0005	<0.0005	<0.0005	**NT**	**NT**	**NT**
NE	<0.002	<0.002	<0.002	**NT**	**NT**	**NT**
NE	<0.001	<0.001	<0.001	**NT**	**NT**	**NT**

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
num Allowable ncentration (100 Subpart F)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
3	NT	NT	NT	<0.016	NT	<0.016
2	NT	NT	NT	<0.016	NT	<0.016
2	NT	NT	NT	<0.016	NT	<0.016
0.94	NT	NT	NT	<0.008	NT	<0.008
0.0074	NT	NT	NT	<0.00013	NT	<0.00013
NE	NT	NT	NT	<0.008	NT	<0.008
1.8	NT	NT	NT	<0.08	NT	<0.08
0.603	NT	NT	NT	<0.016	NT	<0.016
18	NT	NT	NT	<0.008	NT	<0.008
18	NT	NT	NT	<0.016	NT	<0.016
NE	NT	NT	NT	<0.016	NT	<0.016
1	NT	NT	NT	<0.016	NT	<0.016
NE	NT	NT	NT	<0.016	NT	<0.016
NE	NT	NT	NT	<0.016	NT	<0.016
0.009	NT	NT	NT	<0.008	NT	<0.008
0.871	NT	NT	NT	<0.008	NT	<0.008
1.005	NT	NT	NT	<0.008	NT	<0.008
160	NT	NT	NT	<0.08	NT	<0.08
0.6	NT	NT	NT	<0.16	NT	<0.16
0.04	NT	NT	NT	<0.2	NT	<0.2
0.066	NT	NT	NT	<2	NT	<2
0.04	NT	NT	NT	<780	NT	<780
1	NT	NT	NT	<0.08	NT	<0.08
1	NT	NT	NT	<0.08	NT	<0.08
1	NT	NT	NT	<0.08	NT	<0.08
1	NT	NT	NT	<0.08	NT	<0.08
1	NT	NT	NT	<0.08	NT	<0.08
1	NT	NT	NT	<0.16	NT	<0.16
1	NT	NT	NT	<0.16	NT	<0.16

Laboratory ID :	2092103-01	2092103-03	2092103-05	2101602-01	2101602-03	2101602-05
lient Sample ID :	B-1	B-3	B-5	B-7	B-9	B-11
Date Collected :	09/20/12	09/20/12	09/20/12	10/16/2012	10/16/2012	10/16/2012
um Allowable ncentration 1,100 Subpart F)	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.	1-2 ft.
NE	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
1.5	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
NE	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
0.85	**NT**	**NT**	**NT**	<0.8	**NT**	<0.8
NE	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
NE	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
1,600	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
0.02	**NT**	**NT**	**NT**	<0.2	**NT**	<0.2
2	**NT**	**NT**	**NT**	<0.2	**NT**	<0.2
11	**NT**	**NT**	**NT**	<0.4	**NT**	<0.4
0.002	**NT**	**NT**	**NT**	<0.00001	**NT**	<0.00001
0.005	**NT**	**NT**	**NT**	<0.00001	**NT**	<0.00001
40	**NT**	**NT**	**NT**	<0.1	**NT**	<0.1
200	**NT**	**NT**	**NT**	<10	**NT**	<10
NE	**NT**	**NT**	**NT**	**19.2**	**NT**	<0.5
8,000	**NT**	**NT**	**NT**	<150	**NT**	<150

Concentration (MAC) has not been established for this parameter.
:ated within a Metropolitian Statistical Area (MSA).
ory's reportable limits are shown in **bold.**
lhe associated MACs are highligthed in yellow.
lyzed for this parameter.

GRACE ANALYTICAL LAB, INC.
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IL ELAP / NELAC Accreditation # 100292

October 02, 2012

Steve Newlin
AECOM
303 E. Waker Dr., Ste. 600
Chicago, IL 60601

Project ID: CCHD-Lincolnwood
Grace Analytical Job ID: 2092103

The above referenced project was analyzed as directed on the enclosed Chain of Custody record. Analyses were performed in accordance with requirements of 35 IAC 186(Accreditation #100246) and within holding time. Quality control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference.

Request for duplications or reproductions of these analytical reports must be made in writing to GAL and signed by an authorized agent. The analytical results relate only to the samples analyzed.
GAL seeks you feedback, both positive and negative, on our performance. Please contact us for a copy of our feedback form or submit your comments to us at feedback@gracelabinc.com.

Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (708) 449-9449 or e-mail sk@gracelabinc.com.

Sincerely,

Steven Kim, Ph.D.
Laboratory Director
Grace Analytical Lab, Inc.

GRACE ANALYTICAL LAB, INC.
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Your logical choice for custom laboratory solutions
IL ELAP / NELAC Accreditation # 100292

AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1	2092103-01	Soil	09/20/12 00:00	09/21/12 11:20
S-3	2092103-03	Soil	09/20/12 00:00	09/21/12 11:20
S-5	2092103-05	Soil	09/20/12 00:00	09/21/12 11:20

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-1

Lab Sample ID: 2092103-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Wet Chemistry								
% Solids	**87.6**		% by Weight	1	09/21/12	09/21/12	2540B	
Volatile Organic Compounds by EPA Method 8260B								
1,1,1-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloropropane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,4-Dioxane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Butanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Hexanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Acetone	ND	100	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Benzene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromodichloromethane	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromoform	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromomethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon disulfide	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon Tetrachloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chlorobenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroform	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Dibromochloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Ethylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Isopropylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methylene Chloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Styrene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Tetrachloroethene	**8**	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Toluene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichloroethene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichlorofluoromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Vinyl chloride	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	

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AECOM	Project Name: GENERAL	
303 E. Wacker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-1

Lab Sample ID: 2092103-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260B								
Xylenes, total	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-1

Lab Sample ID: 2092103-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Semivolatile Organic Compounds								
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Butyl benzyl phthalate	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Diethyl phthalate	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Di-n-butyl phthalate	ND	1000	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Fluoranthene	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Phenanthrene	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pyrene	ND	1320	ug/kg dry wt. dry	2	09/24/12	09/24/12	EPA 8270D	
TCLP Mercury Method 1311								
Mercury	ND	0.0005	mg/L	1		09/24/12	7470A_TCLP	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-1

Lab Sample ID: 2092103-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
TCLP Metals Method 1311								
Arsenic	**0.005**	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Barium	ND	1	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Cadmium	**0.002**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Chromium	**0.003**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Lead	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Selenium	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Silver	ND	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Total Mercury								
Mercury	ND	0.05	mg/kg	1		09/24/12	7470A	
Total Metals								
Arsenic	**8.1**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Barium	**49.8**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Cadmium	**1.4**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Chromium	**18.2**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Lead	**13.5**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Selenium	ND	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Silver	ND	0.1	mg/kg	1	09/24/12	09/26/12	6010B	

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AECOM	Project Name: GENERAL	
303 E. Wacker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-3

Lab Sample ID: 2092103-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Wet Chemistry								
% Solids	**88.0**		% by Weight	1	09/21/12	09/21/12	2540B	
Volatile Organic Compounds by EPA Method 8260B								
1,1,1-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloropropane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,4-Dioxane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Butanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Hexanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Acetone	ND	100	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Benzene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromodichloromethane	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromoform	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromomethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon disulfide	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon Tetrachloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chlorobenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroform	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Dibromochloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Ethylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Isopropylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methylene Chloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Styrene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Tetrachloroethene	**11**	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Toluene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichloroethene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichlorofluoromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Vinyl chloride	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	

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AECOM	Project Name: GENERAL	
303 E. Wacker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-3

Lab Sample ID: 2092103-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260B								
Xylenes, total	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-3

Lab Sample ID: 2092103-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Semivolatile Organic Compounds								
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Butyl benzyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Diethyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Di-n-butyl phthalate	ND	500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Fluoranthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Phenanthrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
TCLP Mercury Method 1311								
Mercury	ND	0.0005	mg/L	1		09/24/12	7470A_TCLP	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-3

Lab Sample ID: 2092103-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
TCLP Metals Method 1311								
Arsenic	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Barium	ND	1	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Cadmium	**0.002**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Chromium	**0.002**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Lead	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Selenium	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Silver	ND	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Total Mercury								
Mercury	ND	0.05	mg/kg	1		09/24/12	7470A	
Total Metals								
Arsenic	**9.0**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Barium	**45.8**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Cadmium	**1.1**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Chromium	**15.5**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Lead	**13.1**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Selenium	ND	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Silver	ND	0.1	mg/kg	1	09/24/12	09/26/12	6010B	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-5

Lab Sample ID: 2092103-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Wet Chemistry								
% Solids	**88.3**		% by Weight	1	09/21/12	09/21/12	2540B	
Volatile Organic Compounds by EPA Method 8260B								
1,1,1-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,1-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,2-Dichloropropane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
1,4-Dioxane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Butanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
2-Hexanone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Acetone	ND	100	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Benzene	**6**	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromodichloromethane	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromoform	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Bromomethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon disulfide	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Carbon Tetrachloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chlorobenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloroform	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Chloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Dibromochloromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Ethylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Isopropylbenzene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methylene Chloride	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Styrene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Tetrachloroethene	**8**	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Toluene	**13**	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichloroethene	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Trichlorofluoromethane	ND	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Vinyl chloride	ND	2	ug/L	1	09/24/12	09/24/12	EPA 8260C	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-5

Lab Sample ID: 2092103-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260B								
Xylenes, total	7	5	ug/L	1	09/24/12	09/24/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-5

Lab Sample ID: 2092103-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Semivolatile Organic Compounds								
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Butyl benzyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Diethyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Di-n-butyl phthalate	ND	500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Fluoranthene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Phenanthrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
Pyrene	ND	660	ug/kg dry wt. dry	1	09/24/12	09/24/12	EPA 8270D	
TCLP Mercury Method 1311								
Mercury	ND	0.0005	mg/L	1		09/24/12	7470A_TCLP	

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AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Client Sample ID: S-5

Lab Sample ID: 2092103-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
TCLP Metals Method 1311								
Arsenic	**0.015**	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Barium	ND	1	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Cadmium	**0.002**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Chromium	**0.005**	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Lead	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Selenium	ND	0.002	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Silver	ND	0.001	mg/L	1	09/25/12	09/26/12	6010B_TCLP	
Total Mercury								
Mercury	ND	0.05	mg/kg	1		09/24/12	7470A	
Total Metals								
Arsenic	**6.1**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Barium	**52.9**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Cadmium	**1.0**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Chromium	**17.7**	0.1	mg/kg	1	09/24/12	09/26/12	6010B	
Lead	**12.5**	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Selenium	ND	0.2	mg/kg	1	09/24/12	09/26/12	6010B	
Silver	ND	0.1	mg/kg	1	09/24/12	09/26/12	6010B	

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IL ELAP / NELAC Accreditation # 100292

AECOM	Project Name: GENERAL	
303 E. Waker Dr., Ste. 600	Project Number: CCHD-Lincolnwood	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	10/02/12 14:15

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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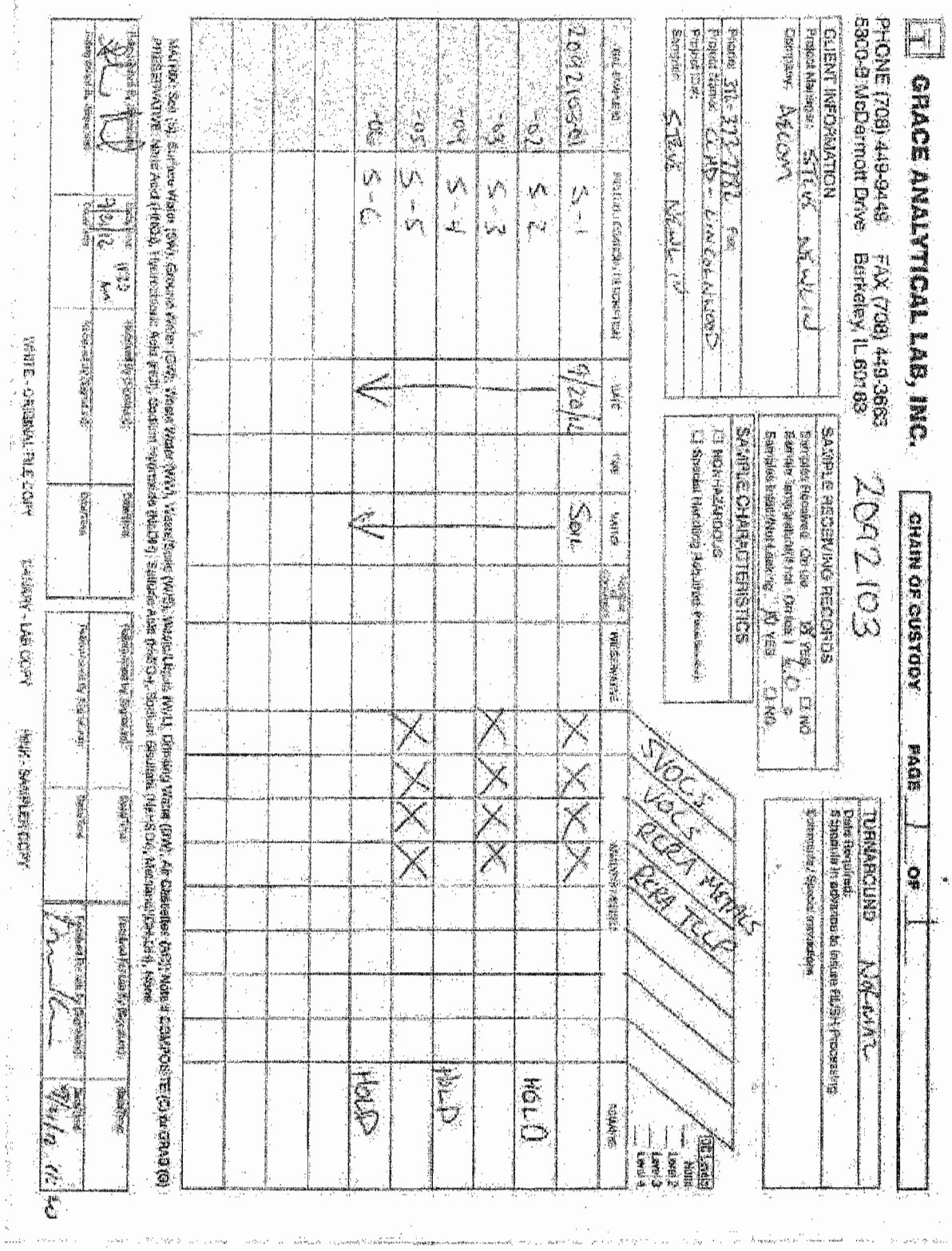

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SAMPLE/COOLER RECEIPT FORM GAL JOB ID#: 2092103
Client Name: AECOM Cooler Received/Opened: 09/21/2012 at 11:20
Project ID: CCHD-Lincolnwood

Signed by: _____
Log-In Personnel Signature

		Yes	No	NA
1.	Temperature of Cooler when triaged: 6.0°C			
2.	Were custody seals on outside of cooler?...	☐	☐	☒
3.	Were custody seals on containers intact?	☐	☐	☒
	If YES: Were the seals intact, signed, and dated correctly?	☐	☐	☐
4.	Were Chain of Custody form inside cooler?	☒	☐	☐
5.	Were Chain of Custody form properly filled out (ink, signed, etc)?.	☒	☐	☐
6.	Did you sign the Chain of Custody form in the appropriate place?	☒	☐	☐
7.	Was there packing material used	☐	☒	☐
	If YES: ☐Bubblewrap ☐Peanuts ☐Vermiculite ☐Other ☐ None			
8.	Cooling process: ☒Ice ☐Icepack ☐Ice(direct contact) ☐Dry ice ☐other ☐None			
9.	Did all containers arrive in good condition (unbroken)?	☒	☐	☐
10.	Were all container labels complete (ID #, data, signed, preserv., etc	☒	☐	☐
11.	Did all container labels and tags agree with Chain of Custody form	☒	☐	☐
12.	Were correct containers used for the analysis requested	☒	☐	☐
13.	a. Were Water VOA vials received	☐	☒	☐
	b. Was there any observable head space present in any VOA vial	☐	☐	☒
14.	Was sufficient amount of sample sent in each container	☒	☐	☐
15.	Were correct preservatives used	☒	☐	☐
	If not, record _____			
16.	Was residual chlorine present	☐	☐	☒

17. Indicate the Airbill Tracking Number and Name of Courier below:
☐Fed-Ex ☐UPS ☐Velocity ☐Airborne ☐Route ☐Misc. ☒Hand delivered ☐Picked Up

18. If a Non-Conformance exists, record reason: _____

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November 14, 2012

Steve Newlin
AECOM
303 E. Waker Dr., Ste. 600
Chicago, IL 60601

Project ID: CCHD
Grace Analytical Job ID: 2101602

The above referenced project was analyzed as directed on the enclosed Chain of Custody record. Analyses were performed in accordance with requirements of 35 IAC 186(Accreditation #100246) and within holding time. Quality control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference.

Request for duplications or reproductions of these analytical reports must be made in writing to GAL and signed by an authorized agent. The analytical results relate only to the samples analyzed.
GAL seeks you feedback, both positive and negative, on our performance. Please contact us for a copy of our feedback form or submit your comments to us at feedback@gracelabinc.com.

Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (708) 449-9449 or e-mail sk@gracelabinc.com.

Sincerely,

Steven Kim, Ph.D.
Laboratory Director
Grace Analytical Lab, Inc.

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-7	2101602-01	Soil	10/16/12 09:20	10/16/12 15:30
S-8	2101602-02	Soil	10/16/12 09:40	10/16/12 15:30
S-9	2101602-03	Soil	10/16/12 10:00	10/16/12 15:30
S-10	2101602-04	Soil	10/16/12 10:20	10/16/12 15:30
S-11	2101602-05	Soil	10/16/12 10:40	10/16/12 15:30

CASE NARATIVES

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Wet Chemistry								
% Solids	**86.3**		% by Weight	1	10/17/12	10/18/12	2540B	
pH	**10.6**		N/A	1	10/19/12	10/19/12	9045C	
Chlorinated Pesticides and PCBs								
4,4'-DDD	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
4,4'-DDE	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
4,4'-DDT	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aldrin	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
alpha-BHC	ND	0.13	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1016	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1221	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1232	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1242	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1248	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1254	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1260	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
beta-BHC	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Chlordane	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
delta-BHC	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Dieldrin	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan I	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan II	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan sulfate	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin aldehyde	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin ketone	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
gamma-BHC (Lindane)	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Heptachlor	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Heptachlor epoxide	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Methoxychlor	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Toxaphene	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
EDB and DBCP by EPA Method 8011								
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0100	ug/kg dry	1	10/18/12	10/31/12	8011	
1,2-Dibromoethane (EDB)	ND	0.0100	ug/kg dry	1	10/18/12	10/31/12	8011	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Volatile Organic Compounds (GC/MS)								
1,1,1-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloropropane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,4-Dioxane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Butanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Hexanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Acetone	ND	100	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Benzene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromodichloromethane	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromoform	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromomethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon disulfide	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon Tetrachloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chlorobenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroform	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Dibromochloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Ethylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Isopropylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methylene Chloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
n-Butanol	ND	50.0	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Styrene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Tetrachloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Toluene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Trichloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Trichlorofluoromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Vinyl chloride	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Wacker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Volatile Organic Compounds (GC/MS)								
Xylenes, total	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzoic acid	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Wacker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Semivolatile Organic Compounds								
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Butyl benzyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Diethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-butyl phthalate	ND	500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenanthrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
First Environmental Laboratories Inc.								
Chloride, Soluble								
Chloride, Soluble	**70**	50	mg/kg	1		10/30/12	4500CL.C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			First Environmental Laboratories Inc.					
Cyanide, Total								
Cyanide, Total	ND	0.1	mg/kg	1		10/29/12	4500CN.C,E	
Fluoride, Soluble								
Fluoride, Soluble	ND	5	mg/kg	1		10/30/12	4500F.C	
Nitrate (as N), Soluble								
Nitrate + Nitrite (as N), Soluble	ND	10	mg/kg	1		10/30/12	353.2R1.0	
Phosphorus (as P)								
Phosphorus (as P)	**19.2**	0.5	mg/kg	1		11/01/12	4500P.B,E	
Sulfate, Soluble								
Sulfate, Soluble	ND	150	mg/kg	1		10/26/12	9038	
Total Mercury								
Mercury	ND	0.05	mg/kg	1		10/26/12	7470A	
Total Metals								
Antimony	ND	1	mg/kg	1	10/26/12	11/01/12	6010B	
Arsenic	**4.2**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Barium	**22.1**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Beryllium	**0.2**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Boron	**8.4**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Cadmium	**0.6**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Calcium	**5020**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Chromium	**10.1**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Cobalt	**30.6**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Copper	**83.4**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Iron	**8610**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Lead	**6.2**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Magnesium	**2280**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Manganese	**126**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Nickel	**12.7**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Potassium	**503**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Selenium	ND	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Silver	ND	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Sodium	**863**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Thallium	ND	1	mg/kg	1	10/26/12	11/01/12	6010B	
Vanadium	**18.9**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Zinc	**20.7**	0.5	mg/kg	1	10/26/12	11/01/12	6010B	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-7

Lab Sample ID: 2101602-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			TestAmerica Laboratories, Inc.					
Herb/8151A								
2,4,5-T	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
2,4-D	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
2,4-DB	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
Dalapon	ND	770	ug/kg	10	10/29/12	11/02/12	8151A	
Dicamba	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
Dichlorprop	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
Dinoseb	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
Pentachlorophenol	ND	190	ug/kg	10	10/29/12	11/02/12	8151A	
Picloram	ND	190	ug/kg	10	10/29/12	11/02/12	8151A	
Silvex (2,4,5-TP)	ND	380	ug/kg	10	10/29/12	11/02/12	8151A	
Pest/8081A								
Alachlor	ND	190	ug/kg	10	10/29/12	11/02/12	8081A	
Atrazine	ND	1900	ug/kg	10	10/29/12	11/02/12	8081A	
Simazine	ND	760	ug/kg	10	10/29/12	11/02/12	8081A	
SVOC/8270C								
Aldicarb	ND	780	ug/kg	10	10/29/12	11/02/12	8270C	
Carbofuran	ND	380	ug/kg	10	10/29/12	11/02/12	8270C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-8

Lab Sample ID: 2101602-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Wet Chemistry								
% Solids	**84.1**		% by Weight	1	10/17/12	10/18/12	2540B	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-9

Lab Sample ID: 2101602-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Wet Chemistry								
% Solids	**84.1**		% by Weight	1	10/17/12	10/18/12	2540B	
Volatile Organic Compounds (GC/MS)								
1,1,1-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloropropane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,4-Dioxane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Butanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Hexanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Acetone	ND	100	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Benzene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromodichloromethane	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromoform	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromomethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon disulfide	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon Tetrachloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chlorobenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroform	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Dibromochloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Ethylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Isopropylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methylene Chloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
n-Butanol	ND	50.0	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Styrene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Tetrachloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Toluene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Trichloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-9

Lab Sample ID: 2101602-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Volatile Organic Compounds (GC/MS)								
Trichlorofluoromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Vinyl chloride	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Xylenes, total	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-9

Lab Sample ID: 2101602-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Semivolatile Organic Compounds								
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzoic acid	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Butyl benzyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Diethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-butyl phthalate	ND	500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenanthrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-9

Lab Sample ID: 2101602-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			First Environmental Laboratories Inc.					
Total Mercury								
Mercury	ND	0.05	mg/kg	1		10/26/12	7470A	
Total Metals								
Arsenic	**16.1**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Barium	**208**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Cadmium	**2.1**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Chromium	**13.8**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Lead	**12.6**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Selenium	ND	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Silver	ND	0.1	mg/kg	1	10/26/12	11/01/12	6010B	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Wacker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-10

Lab Sample ID: 2101602-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Wet Chemistry								
% Solids	**94.0**		% by Weight	1	10/17/12	10/18/12	2540B	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			Grace Analytical Lab, Inc.					
Wet Chemistry								
% Solids	**83.7**		% by Weight	1	10/17/12	10/18/12	2540B	
pH	**9.40**		N/A	1	10/19/12	10/19/12	9045C	
Chlorinated Pesticides and PCBs								
4,4'-DDD	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
4,4'-DDE	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
4,4'-DDT	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aldrin	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
alpha-BHC	ND	0.13	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1016	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1221	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1232	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1242	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1248	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1254	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Aroclor-1260	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
beta-BHC	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Chlordane	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
delta-BHC	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Dieldrin	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan I	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan II	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endosulfan sulfate	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin aldehyde	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Endrin ketone	ND	16.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
gamma-BHC (Lindane)	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Heptachlor	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Heptachlor epoxide	ND	8.00	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Methoxychlor	ND	80.0	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
Toxaphene	ND	160	ug/kg dry	1	10/19/12	10/19/12	EPA 8081A/8082	
EDB and DBCP by EPA Method 8011								
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0100	ug/kg dry	1	10/18/12	10/31/12	8011	
1,2-Dibromoethane (EDB)	ND	0.0100	ug/kg dry	1	10/18/12	10/31/12	8011	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Wacker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Grace Analytical Lab, Inc.

Volatile Organic Compounds (GC/MS)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1,2-Trichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,1-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,2-Dichloropropane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
1,4-Dioxane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Butanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
2-Hexanone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Acetone	ND	100	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Benzene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromodichloromethane	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromoform	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Bromomethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon disulfide	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Carbon Tetrachloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chlorobenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloroform	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Chloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Dibromochloromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Ethylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Isopropylbenzene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl Isobutyl Ketone	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methylene Chloride	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
n-Butanol	ND	50.0	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Styrene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Tetrachloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Toluene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Trichloroethene	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Trichlorofluoromethane	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Vinyl chloride	ND	2.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Volatile Organic Compounds (GC/MS)								
Xylenes, total	ND	5.00	ug/kg dry	1	10/18/12	10/19/12	EPA 8260C	
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,2-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,3-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
1,4-Dichlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,5-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4,6-Trichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dichlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dimethylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,4-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2,6-Dinitrotoluene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chloronaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Chlorophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylnaphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Methylphenol	ND	2300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
2-Nitrophenol	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3/4-Methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
3-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	2000	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloro-3-methylphenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chloroaniline	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitroaniline	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
4-Nitrophenol	ND	3300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Acenaphthylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Anthracene	ND	900	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) anthracene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (a) pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (b) fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (g,h,i) perylene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzo (k) fluoranthene	ND	1800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Benzoic acid	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Semivolatile Organic Compounds								
Benzyl alcohol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethoxy)methane	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroethyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Butyl benzyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Carbazole	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Chrysene	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenz (a,h) anthracene	ND	400	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dibenzofuran	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Diethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Dimethyl phthalate	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-butyl phthalate	ND	500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Di-n-octyl phthalate	ND	860	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluoranthene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Fluorene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorobutadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachlorocyclopentadiene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Hexachloroethane	ND	800	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Isophorone	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Naphthalene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Nitrobenzene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
N-Nitrosodiphenylamine	ND	670	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pentachlorophenol	ND	1500	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenanthrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Phenol	ND	1300	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
Pyrene	ND	660	ug/kg dry wt. dry	1	10/19/12	10/19/12	EPA 8270D	
First Environmental Laboratories Inc.								
Chloride, Soluble								
Chloride, Soluble	**191**	50	mg/kg	1		10/30/12	4500CL.C	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			First Environmental Laboratories Inc.					
Cyanide, Total								
Cyanide, Total	ND	0.1	mg/kg	1		10/29/12	4500CN,C,E	
Fluoride, Soluble								
Fluoride, Soluble	ND	5	mg/kg	1		10/30/12	4500F,C	
Nitrate (as N), Soluble								
Nitrate + Nitrite (as N), Soluble	ND	10	mg/kg	1		10/30/12	353.2R1.0	
Phosphorus (as P)								
Phosphorus (as P)	ND	0.5	mg/kg	1		11/01/12	4500P.B,E	
Sulfate, Soluble								
Sulfate, Soluble	ND	150	mg/kg	1		10/26/12	9038	
Total Mercury								
Mercury	**0.06**	0.05	mg/kg	1		10/26/12	7470A	
Total Metals								
Antimony	ND	1	mg/kg	1	10/26/12	11/01/12	6010B	
Arsenic	**6.5**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Barium	**39.9**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Beryllium	**0.7**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Boron	**24.8**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Cadmium	**1.5**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Calcium	**54600**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Chromium	**19.2**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Cobalt	**9.6**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Copper	**29.4**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Iron	**20800**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Lead	**13.6**	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Magnesium	**26700**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Manganese	**441**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Nickel	**27.2**	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Potassium	ND	10	mg/kg	1	10/26/12	11/01/12	6010B	
Selenium	ND	0.2	mg/kg	1	10/26/12	11/01/12	6010B	
Silver	ND	0.1	mg/kg	1	10/26/12	11/01/12	6010B	
Sodium	**1700**	10	mg/kg	1	10/26/12	11/01/12	6010B	
Thallium	ND	1	mg/kg	1	10/26/12	11/01/12	6010B	
Vanadium	**23.4**	1	mg/kg	1	10/26/12	11/01/12	6010B	
Zinc	**51.3**	0.5	mg/kg	1	10/26/12	11/01/12	6010B	

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AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Client Sample ID: S-11

Lab Sample ID: 2101602-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			TestAmerica Laboratories, Inc.					
Herb/8151A								
2,4,5-T	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
2,4-D	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
2,4-DB	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
Dalapon	ND	800	ug/kg	10	10/29/12	11/02/12	8151A	
Dicamba	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
Dichlorprop	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
Dinoseb	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
Pentachlorophenol	ND	200	ug/kg	10	10/29/12	11/02/12	8151A	
Picloram	ND	200	ug/kg	10	10/29/12	11/02/12	8151A	
Silvex (2,4,5-TP)	ND	400	ug/kg	10	10/29/12	11/02/12	8151A	
Pest/8081A								
Alachlor	ND	200	ug/kg	10	10/29/12	11/02/12	8081A	
Atrazine	ND	2000	ug/kg	10	10/29/12	11/02/12	8081A	
Simazine	ND	780	ug/kg	10	10/29/12	11/02/12	8081A	
SVOC/8270C								
Aldicarb	ND	800	ug/kg	10	10/29/12	11/02/12	8270C	
Carbofuran	ND	390	ug/kg	10	10/29/12	11/02/12	8270C	

GRACE ANALYTICAL LAB, INC.
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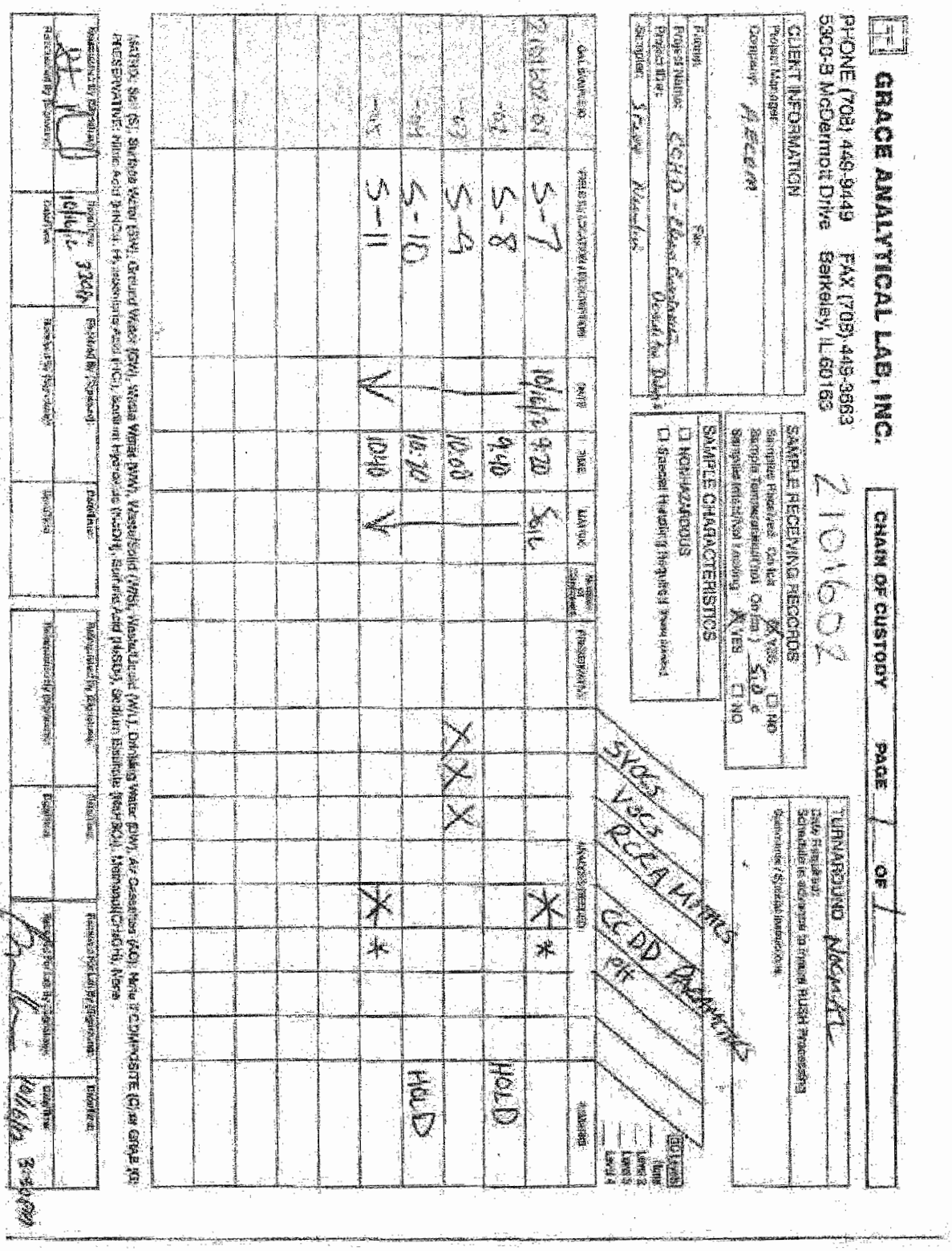
Your logical choice for custom laboratory solutions
IL ELAP / NELAC Accreditation # 100292

AECOM	Project Name: GENERAL	SN: 20121114171703
303 E. Waker Dr., Ste. 600	Project Number: CCHD	**Reported:**
Chicago IL, 60601	Project Manager: Steve Newlin	11/14/12 17:16

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Grace Analytical lab, inc.
5300-B McDermott Dr. Berkeley, IL 60163 . Tel. (708) 449-9449 . . Fax (708) 449-3663



Grace Analytical lab, inc.
5300-B McDermott Dr. Berkeley, IL 60163 . Tel. (708) 449-9449 . . Fax (708) 449-3663

SAMPLE/COOLER RECEIPT FORM GAL JOB ID#: 2101602
Client Name: AECOM Cooler Received/Opened: 10/16/2012 at 15:30
Project ID: CCHD-Clean Construction Demolition Debris

Signed by: _____
Log-In Personnel Signature

		Yes	No	NA
1.	Temperature of Cooler when triaged: 5.0°C			
2.	Were custody seals on outside of cooler?...	☐	☐	☒
3.	Were custody seals on containers intact?	☐	☐	☒
	If YES: Were the seals intact, signed, and dated correctly?	☐	☐	☐
4.	Were Chain of Custody form inside cooler?	☒	☐	☐
5.	Were Chain of Custody form properly filled out (ink, signed, etc)?.	☒	☐	☐
6.	Did you sign the Chain of Custody form in the appropriate place?	☒	☐	☐
7.	Was there packing material used	☐	☒	☐
	If YES: ☐Bubblewrap ☐Peanuts ☐Vermiculite ☐Other ☐ None			
8.	Cooling process: ☒Ice ☐Icepack ☐Ice(direct contact) ☐Dry ice ☐other ☐None			
9.	Did all containers arrive in good condition (unbroken)?	☒	☐	☐
10.	Were all container labels complete (ID #, data, signed, preserv., etc	☒	☐	☐
11.	Did all container labels and tags agree with Chain of Custody form	☒	☐	☐
12.	Were correct containers used for the analysis requested	☒	☐	☐
13.	a. Were Water VOA vials received	☐	☒	☐
	b. Was there any observable head space present in any VOA vial	☐	☐	☒
14.	Was sufficient amount of sample sent in each container	☒	☐	☐
15.	Were correct preservatives used	☒	☐	☐
	If not, record _____			
16.	Was residual chlorine present	☐	☐	☒

17. Indicate the Airbill Tracking Number and Name of Courier below:
☐Fed-Ex ☐UPS ☐Velocity ☐Airborne ☐Route ☐Misc. ☒Hand delivered ☐Picked Up

18. If a Non-Conformance exists, record reason: _____

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663 Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i) is uncontaminated soil and (ii) is within a pH range of 6.26 to 9.0. If you have questions about this form, please telephone the Bureau of Land Permit Section at 217/524-3300.

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: CCHD - Lincolnwood Office Phone Number, if available:

Physical Site Location (address, incldluding number and street):

Crawford Avenue from Pratt Avenue to Oakton Street (excluding Stations STA. 1031+00.00 to1069+02.20)

City: Lincolnwood State: IL Zip Code: 60712

County: Cook Township:

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42° 00' 26.56" N (Decimal Degrees) Longitude: - 87° 43' 42.56" W (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: NA BOW: NA BOA: NA

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Cook County Highway Department	Name:	
Street Address:	69 W. Washington, Suite 2100	Street Address:	
PO Box:		PO Box:	
City:	Chicago State: IL	City:	State:
Zip Code:	60602 Phone: (312) 603-1613	Zip Code:	Phone:
Contact:	Holly Cichy	Contact:	
Email, if available:	holly.cichy@cookcountyil.gov	Email, if available:	

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42) This form has been approved by the Forms Management Center

Project Name: CCHD - Lincolnwood

Latitude: 42° 00' 26.56" N Longitude: - 87° 43' 42.56" W

Uncontaminated Site Certification

III. Basis for Certification and Attachments

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

two soil samples in addition to the 12 borings that were previously sampled is sufficient to characterize the site. The recent two samples were collected close to the intersection of Lake Cook and Waukegan Roads where the main environmental concerns are located at the site.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0, including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

The MACs have been met in the analysis of both samples. Sample S-101 was collected from silty clay and had a pH of 8.6. Sample S-102 was made up of sand and limestone gravel and was not soil. Therefore the pH for S-102 does not apply.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, Tony Kiefer (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. In addition, I certify that the soil has not been removed from the site as part of a cleanup or removal of contaminants. All necessary documentation is attached.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Company Name: AECOM

Street Address: 750 Corporate Woods Parkway

City: Vernon Hills State: IL Zip Code: 60061

Phone: 847-279-2500

TONY A. KIEFER
Printed Name:

Tony A. Kiefer
Licensed Professional Engineer or
Licensed Professional Geologist Signature:

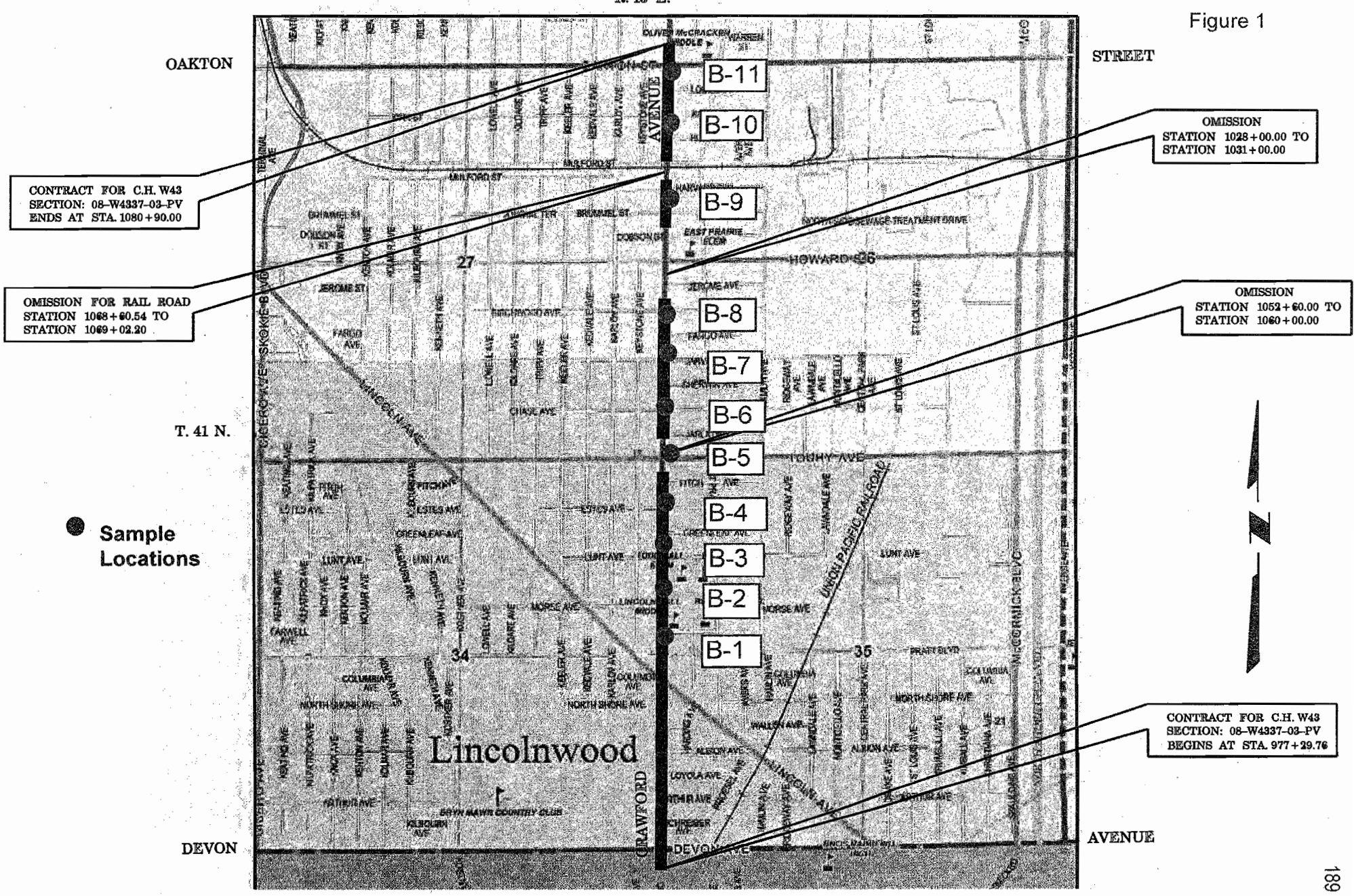
7/8/13
Date:

TONY A. KIEFER
062-045312
LICENSED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Renews 11/2013

P.E. or L.P.G. Seal:

Figure 1


R. 13 E.
OAKTON
STREET
T. 41 N.
DEVON
AVENUE
CONTRACT FOR C.H. W43
SECTION: 08-W4337-03-PV
ENDS AT STA. 1080+90.00
OMISSION FOR RAIL ROAD
STATION 1068+60.54 TO
STATION 1069+02.20
OMISSION
STATION 1028+00.00 TO
STATION 1031+00.00
OMISSION
STATION 1052+60.00 TO
STATION 1060+00.00
CONTRACT FOR C.H. W43
SECTION: 08-W4337-03-PV
BEGINS AT STA. 977+29.76
B-11
B-10
B-9
B-8
B-7
B-6
B-5
B-4
B-3
B-2
B-1
Sample Locations
Lincolnwood
CRAWFORD
AVENUE
HOWARD
TOUHY AVE
UNION PACIFIC RAILROAD
LINCOLN AVE
DEVON AVE
27
34
35
N

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

Revise Article 669.01 of the Standard Specifications to read:

"**669.01 Description.** This work shall consist of the transportation and proper disposal of contaminated soil and water. This work shall also consist of the removal, transportation, and proper disposal of underground storage tanks (UST), their content and associated underground piping to the point where the piping is above the ground, including determining the content types and estimated quantities."

Revise Article 669.08 of the Standard Specifications to read:

"**669.08 Contaminated Soil and/or Groundwater Monitoring.** The Contractor shall hire a qualified environmental firm to monitor the area containing the regulated substances. The affected area shall be monitored with a photoionization detector (PID) utilizing a lamp of 10.6eV or greater or a flame ionization detector (FID). Any field screen reading on the PID or FID in excess of background levels indicates the potential presence of contaminated material requiring handling as a non-special waste, special waste, or hazardous waste. No excavated soils can be taken to a clean construction and demolition debris (CCDD) facility or an uncontaminated soil fill operation with detectable PID or FID meter readings that are above background. The PID or FID meter shall be calibrated on-site and background level readings taken and recorded daily. All testing shall be done by a qualified engineer/technician. Such testing and monitoring shall be included in the work. The Contractor shall identify the exact limits of removal of non-special waste, special waste, or hazardous waste. All limits shall be approved by the Engineer prior to excavation. The Contractor shall take all necessary precautions.

Based upon the land use history of the subject property and/or PID or FID readings indicating contamination, a soil or groundwater sample shall be taken from the same location and submitted to an approved laboratory. Soil or groundwater samples shall be analyzed for the contaminants of concern, including pH, based on the property's land use history or the parameters listed in the maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605. The analytical results shall serve to document the level of soil contamination. Soil and groundwater samples may be required at the discretion of the Engineer to verify the level of soil and groundwater contamination.

Samples shall be grab samples (not combined with other locations). The samples shall be taken with decontaminated or disposable instruments. The samples shall be placed in sealed containers and transported in an insulated container to the laboratory. The container shall maintain a temperature of 39 °F (4 °C). All samples shall be clearly labeled. The labels shall indicate the sample number, date sampled, location and elevation, and any other observations.

The laboratory shall use analytical methods which are able to meet the lowest appropriate practical quantitation limits (PQL) or estimated quantitation limit (EQL) specified in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846 and "Methods for the Determination of Organic Compounds in Drinking Water", EPA, EMSL, EPA-600/4-88/039. For parameters where the specified cleanup objective is below the acceptable detection limit (ADL), the ADL shall serve as the cleanup objective. For other parameters the ADL shall be equal to or below the specified cleanup objective."

Replace the first two paragraphs of Article 669.09 of the Standard Specifications with the following:

"**669.09 Contaminated Soil and/or Groundwater Management and Disposal.** The management and disposal of contaminated soil and/or groundwater shall be according to the following:

(a) Soil Analytical Results Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels exceed the most stringent maximum allowable concentration (MAC) for chemical constituents in uncontaminated soil established pursuant to Subpart F of 35 Illinois Administrative Code 1100.605, the soil shall be managed as follows:

(1) When analytical results indicate inorganic chemical constituents exceed the most stringent MAC but they are still considered within area background levels by the Engineer, the excavated soil can be utilized within the construction limits as fill, when suitable. Such soil excavated for storm sewers can be placed back into the excavated trench as backfill, when suitable, unless trench backfill is specified. If the soils cannot be utilized within the construction limits, they shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(2) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for a Metropolitan Statistical Area (MSA) County, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(3) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, or the MAC within the Chicago corporate limits, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago or within the Chicago corporate limits provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an uncontaminated soil fill operation within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(5) When the Engineer determines soil cannot be managed according to Articles 669.09(a)(1) through (a)(4) above, the soil shall be managed and disposed of off-site as a non-special waste, special waste, or hazardous waste as applicable.

(b) Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC but the pH of

the soil is less than 6.25 or greater than 9.0, the excavated soil can be utilized within the construction limits or managed and disposed of off-site as "uncontaminated soil" according to Article 202.03. However the excavated soil cannot be taken to a CCDD facility or an uncontaminated soil fill operation.

(c) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste.

All groundwater encountered within lateral trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

One backfill plug shall be placed down gradient to the area of groundwater contamination. Backfill plugs shall be installed at intervals not to exceed 50 ft (15 m). Backfill plugs are to be 4 ft (1.2 m) long, measured parallel to the trench, full trench width and depth. Backfill plugs shall not have any fine aggregate bedding or backfill, but shall be entirely cohesive soil or any class of concrete. The Contractor shall provide test data that the material has a permeability of less than 10^{-7} cm/sec according to ASTM D 5084, Method A or per another test method approved by the Engineer."

Revise Article 669.14 of the Standard Specifications to read:

"**669.14 Final Environmental Construction Report.** At the end of the project, the Contractor will prepare and submit three copies of the Environmental Construction Report on the activities conducted during the life of the project, one copy shall be submitted to the Resident Engineer, one copy shall be submitted to the District's Environmental Studies Unit, and one copy shall be submitted with an electronic copy in Adode.pdf format to the Geologic and Waste Assessment Unit, Bureau of Design and Environment, IDOT, 2300 South Dirksen Parkway, Springfield, Illinois 62764. The technical report shall include all pertinent information regarding the project including, but not limited to:

(a) Measures taken to identify, monitor, handle, and dispose of soil or groundwater containing regulated substances, to prevent further migration of regulated substances, and to protect workers,

(b) Cost of identifying, monitoring, handling, and disposing of soil or groundwater containing regulated substances, the cost of preventing further migration of regulated substances, and the cost for worker protection from the regulated substances. All cost should be in the format of the contract pay items listed in the contract plans (identified by the preliminary environmental site assessment (PESA) site number),

(c) Plan sheets showing the areas containing the regulated substances,

(d) Field sampling and testing results used to identify the nature and extent of the regulated substances,

(e) Waste manifests (identified by the preliminary environmental site assessment (PESA) site number) for special or hazardous waste disposal, and

(f) Landfill tickets (identified by the preliminary environmental site assessment (PESA) site number) for non-special waste disposal."

Revise the second paragraph of Article 669.16 of the Standard Specifications to read:

"The transportation and disposal of soil and other materials from an excavation determined to be contaminated will be paid for at the contract unit price per cubic yard (cubic meter) for NON-SPECIAL WASTE DISPOSAL, SPECIAL WASTE DISPOSAL, or HAZARDOUS WASTE DISPOSAL."

Qualifications. The term environmental firm shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Department. Documentation includes but not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Engineer for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General. This Special Provision will likely require the Contractor to subcontract for the execution of certain activities.

All contaminated materials shall be managed as either "uncontaminated soil" or non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances. The Environmental Firm shall continuously monitor all soil excavation for worker protection and soil contamination. **Phase I Preliminary Engineering information is available through the District's Environmental Studies Unit.** Soil samples or analysis without the approval of the Engineer will be at no additional cost to the Department. The lateral distance is measured from centerline and the farthest distance is the offset distance or construction limit whichever is less.

The Contractor shall manage any excavated soils and sediment within the following areas:

- Station 975+00 to Station 976+50 0 to 80 feet RT (Backyard Grill, PESA Site 2580-13, 6355 North Pulaski Road). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzene and Manganese.
- Station 997+00 to Station 998+30 0 to 80 feet LT (Strip Mall, PESA Site 2580-7, 6700-6712 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: PNAs.
- Station 1000+00 to Station 1003+40 0 to 220 feet LT (Mobil Gasoline Station, PESA Site 2580-3, 6700-6712 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(5) and shall be managed in accordance to Article 669.09. Contaminants of

concern sampling parameters: Benzene, Ethylbenzene, Xylenes, Naphthalene, Lead, and Manganese.

- Station 975+00 to Station 976+50 0 to 80 feet LT (Foster Bank and Executive Mall, PESA Site 2580-12, 4001 West Devon Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 976+50 to Station 984+50 0 to 80 feet LT (Bryn Mawr Country Club, PESA Site 2580-8, 6600 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, Arsenic, Lead, and Manganese.
- Station 976+50 to Station 980+30 0 to 80 feet RT (Strip Mall, PESA Site 2580-11, 3934-3950 West Devon Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Lead, and Manganese.
- Station 980+30 to Station 982+00 0 to 80 feet RT (Village of Lincolnwood Water Storage and Pumping Station, PESA Site 2580-10, 4001 West Devon Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 986+60 to Station 997+00 0 to 80 feet LT (Bryn Mawr Country Club, PESA Site 2580-8, 6600 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, Lead, and Manganese.
- Station 982+00 to Station 989+20 0 to 80 feet RT (Residences, PESA Site 2580-9, Various Addresses). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: PNAs and Lead, and Manganese.
- Station 993+30 to Station 997+00 0 to 80 feet RT (Residences, PESA Site 2580-9, Various Addresses). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 998+30 to Station 1000+00 0 to 80 feet RT (Grossinger Kia, PESA Site 2580-5, 6750 North Lincoln Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Manganese.
- Station 1003+40 to Station 1004+40 0 to 80 feet LT (Lincolnwood Public Library, PESA Site 2580-2, 4000 West Pratt Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, and Lead.
- Station 997+00 to Station 1000+00 0 to 80 feet RT (Vacant Building, PESA Site 2580-6, 6734 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Dibenzo(a,h)Anthracene, and Manganese.
- Station 1000+00 to Station 1003+40 0 to 80 feet RT (Grossinger Hyundai, PESA Site 2580-4, 6747 North Crawford Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Arsenic, and Manganese.
- Station 1003+40 to Station 1010+00 0 to 80 feet RT (Lincoln Hall Middle School, PESA Site 2580-1, 6855 North Crawford Avenue). This material meets the criteria of Article

669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzo(a)Pyrene, Arsenic, Lead, and Manganese.

- Station 1028+00 to Station 1032+00 0 to 80 feet RT (Intersection of Crawford Avenue and Touhy Avenue). This material meets the criteria of Article 669.09(a)(1) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Lead and Manganese.
- Station 975+00 to Station 976+50 0 to 80 feet RT (Backyard Grill, PESA Site 2580-13, 6355 North Pulaski Road). This material meets the criteria of Article 669.09(c) and shall be managed in accordance to Article 669.09. Contaminants of concern sampling parameters: Benzene.

Backfill plugs shall be place within the following locations.

- Station 1001+00 to Station 1002+00 to 80 feet RT/LT (Mobil Gasoline Station, PESA Site 2580-3, 6700-6712 North Crawford Avenue). Contaminants of concern sampling parameters: Benzene, Ethylbenzene, Xylenes, and Naphthalene.

SPECIAL PROVISION
FOR
PORTLAND CEMENT CONCRETE PAVEMENT

This contract includes construction of Portland Cement Concrete Pavement. The paving contractor performing this work shall be pre-qualified by IDOT in accordance with 44 IL ADMINISTRATIVE CODE SECTION 650 ADOPTED JULY 1, 1994 AND AMENDED DECEMBER 7, 2000 – APPENDIX A - AVAILABLE WORK CATEGORIES - category # 2 – PORTLAND CEMENT CONCRETE PAVING.

SPECIAL PROVISION
FOR
MANAGING CONCRETE WASTE

Description. Prevent or reduce the discharge of pollutants to stormwater from concrete waste including diamond grinding slurry or residue by conducting washout offsite or by performing onsite washout in a designated area.

Construction. Perform this work on projects where;

- Concrete is used as a construction material or where concrete dust and debris result form demolition activities
- Slurries containing portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition
- Concrete trucks and other concrete-coated equipment are washed onsite
- Mortar-mixing stations exist

Requirements.

- No discharge of water/lime slurry will be allowed to enter "waters of the state".

"Waters of the state" - all rivers, streams, lakes and other bodies of surface and subsurface water lying within the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or entity.

- The slurry shall not be discharged to drainage ways, non-vegetated areas or anywhere storm water runoff is likely to occur.
- Discharge of the slurry should be stopped

  at least 25 feet from creeks and rivers on slopes less than 12 percent.
  at least 50 feet on slopes 12 percent to 25 percent in areas with healthy vegetation on the road right of way.
  at least 12 feet from the bottom of all ditches.
- On sites where there is sparse or no vegetation to control the movement of the slurry, alternatives that may be used include:

  Pump the slurry into tankers and hauled to an area where it can be spread as a lime supplement. This method will require additional tankers and land close to the project site.
  Incorporate the slurry into the soil on the right of way next to the road where it will not impact waters of the state, highway or shoulders.
- The Resident Engineer must approve any other method of application or use of the slurry. The design engineer should be contacted for guidance on the use of alternative methods.
- Precautions must be taken at all times to prevent the slurry from entering the waters of the state. Should improper application occur which may result in a discharge of lime slurry to the waters of the state, the contractor shall immediately remove the slurry and notify the Resident Engineer.

Implementation. The following steps shall be taken to help reduce stormwater pollution from concrete wastes:

- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete.
- Perform washout of concrete trucks offsite or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped onsite, except in designated areas.

For onsite washout:

- Locate washout area at least 50 feet from storm drains, open ditches, or water bodies.
- Prevent runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
- Avoid creating runoff by draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain.
- Collect and return sweepings to aggregate base stockpile or dispose in the trash.

For Concrete Slurry Wastes. The following steps shall be taken when handling and disposing of concrete slurry wastes containing portland cement concrete (PCC) or asphalt concrete (AC) generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.

- PCC and AC waste should not be allowed to enter storm drains or watercourses.
- PCC and AC waste should be collected and disposed of or placed in a temporary concrete washout facility.
- A sign should be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.
- Below grade concrete washout facilities are typical. Above grade facilities are used if excavation is not practical.
- A foreman or construction supervisor should monitor onsite concrete working tasks, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Saw-cut PCC slurry should not be allowed to enter storm drains or watercourses.
- Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine.
- Saw cutting residue should not be allowed to flow across the pavement and should not be left on the surface of the pavement.

Slurry residue should be vacuumed and disposed in a temporary pit (as described below) and allowed to dry. Dispose of dry slurry residue in accordance with

For Onsite Temporary Concrete Washout Facility:

- Temporary concrete washout facilities should be located a minimum of 50 ft from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities should be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.
- Temporary washout facilities should have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
- Washout of concrete trucks should be performed in designated areas only.
- Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)

    - Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
    - Silt Fence, wood stakes, and sandbag materials should conform to the provisions in SE-9, Straw Bale Barrier.
    - Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

- Temporary Concrete Washout Facility (Type Below Grade)

    - Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
    - Lath and flagging should be commercial type.
    - Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material.

Removal of Temporary Concrete Washout Facilities: When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and disposed of. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

Inspection and Maintenance.

- Inspect and verify that activity–based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities.
- Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition.
- Hardened concrete materials should be removed and disposed of.
- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

Disposal for the Diamond Grinding Slurry (Non Hazardous Only).

Transporting. - Transport the diamond grinding slurry from the diamond grinder to a licensed Type II municipal landfill for solidification or to a licensed liquid industrial waste disposal facility. Cover and contain to prevent loss to the environment during transport and delivery to the licensed facility.

Solid Waste Facility. Dispose of the diamond grinding slurry in a licensed Type II municipal landfill pursuant to Part 115 of Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). The disposal shall be consistent with the landfill's waste acceptance policies and the slurry shall be solidified sufficiently to pass the paint filter test.

Licensed Liquid Industrial Waste Disposal Facility. The diamond grinding slurry may also be processed as a liquid industrial waste at a licensed liquid industrial waste facility pursuant to Part 121 of the Liquid Industrial Waste, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), provided the disposal is consistent with the licensed liquid waste facility processor acceptance policies.

Records Furnish a complete waste disposal manifest for each load prepared by the Contractor with copies to the Engineer containing information on the point of generation including roadway, the volume transported, and the name of licensed disposal facility.

Contractor Responsibility for Method of Operations. This specification sets forth minimum steps to avoid violating environmental laws. It remains the responsibility of the Contractor to determine whether more than those minimum steps are required and to perform the work required by this contract in whatever manner may be required to comply with applicable laws. The Contractor shall be liable to the Department for any fines, costs, or remediation costs incurred by the Department as a result of the Contractor's failure to be in compliance with this specification and all federal, state and local laws.

Measurement and Payment: All costs associated with the collecting, handling, transporting by contractor or licensed industrial waste hauler, manifesting the waste, managing the diamond grinding slurry, and disposing will not be paid for separately but will be included in the payment for other items of work. All costs associated with full compliance with applicable laws regardless of whether or not all applicable laws are cited in this special provision or in the Standard Specification for Construction will be borne by the Contractor.

SPECIAL PROVISION
FOR
DOWEL BARS

Revise the fifth and sixth sentences of Article 1006.11(b) of the Standard Specifications to read:

"The bars shall be epoxy coated according to AASHTO M 284, except the thickness of the epoxy shall be 7 to 12 mils (0.18 to 0.30 mm) and patching of the ends will not be required. The epoxy coating applicator shall be certified according to the current IDOT Bureau of Materials and Physical Research Policy Memorandum, "Epoxy Coating Plant Certification Procedure". The Department will maintain an approved list."

Basis of Payment. Dowel Bars required for Pavement Patching or placement of P.C. Concrete Pavement will NOT be paid for separately. The cost of the dowel bars will be included in the cost for the respective pavement replacement item. Contraction joints requiring the use of dowel bars will be located at the direction of the Engineer and placed in accordance with the applicable Illinois Department of Transportation Standard or Specification as well as any other note, detail or standard contained in the project plans and specifications.

SPECIAL PROVISION
FOR
SURVEY MONUMENTS

Description. The Contractor shall cause all work necessary to be performed for the preservation, relocation and erection of Survey Monuments at all points hereinafter described. Installation shall be made in accordance with the details shown on plans.

Survey Monuments. All section, quarter section or other government established corners which are discovered or known to exist within the limits of the proposed improvement are to be re-established (as later specified) in accordance with the details shown on the Standard Design for Cook County Survey Monuments. All section corners located within the project limits or as called out on the plans will be located by a Registered Land Surveyor and a physical monument installed at the located corner in accordance with the details specified below. This will be done even if an existing monument is not found at that corner.

Placing Monuments. When monuments are located within the limits of the proposed improvements, they shall not be disturbed by the Contractor until a Registered Land Surveyor shall have made such reference as may be necessary to preserve their location. After the pavement is laid, the original location of the monuments shall be identified by placing in position, vertically above or below the original location, the new monuments which shall comply with details shown on the Standard Designs. In case monuments do not fall within the limits of the pavement, the monument shall be placed in a 2-1/2 inch wrought iron pipe, 3 feet long, driven flush with the ground surface and grouted as shown on the aforesaid Standard design. The plugs for this purpose shall be furnished by a Registered Land Surveyor and shall be set securely and in a workmanlike manner flush with the surface of the ground or pavement in accordance with the requirements of the law and under the direction of a Registered Land Surveyor. When section corners without existing monumentation are located within the project limits or as specifically directed in the plans, that corner shall be located and monumented as described above.

Plat. The location of all monuments to be preserved, reset or erected within the limits of the improvement shall be shown on a plat or plats which delineates and describes each corner monument. Preparation of the above plat must conform with Illinois Public Act 79-649, entitled "An Act to provide for the perpetuation of land survey Monuments". Each plat shall be recorded by the Surveyor in the office of the County Recorder. Copies of the plat or plats, as recorded and bearing the appropriate document number, shall be furnished to and become the property of the Cook County Department of Transportation and Highways (one copy to the Pavement Geometrics Division - Survey Section and one copy to the Right of Way Bureau).

Basis of Payment. This work will be paid for at the contract unit price each for Survey Momuments, relocated and erected within the limits of the improvement or as specifically directed in the plans, which price shall include the cost of all labor, tools and materials used in the performance of preserving, relocating and identifying the monuments, as well as the salary and expense of the Registered Land Surveyor while engaged in this work.

SPECIAL PROVISION
FOR
SOILS INFORMATION

All soils information upon which the design was prepared is available for examination by all prospective bidders at the office of the Cook County Department of Transportation and Highways. Information may also be posted on the Transportation and Highways Department ftp site along with the contract plans. All interested parties are advised to access this site to review any posted information. Instructions for accessing this site are found on page 1 of this document. Information regarding Clean Construction Debris and Demolition (CCDD), if applicable to the project, may be found in the special provision.

Any information shown on the plans, posted online, available in the Transportation and Highways Department offices or contained in the Special Provisions pertaining to subsurface exploration, borings, test pits, roadway cores and other preliminary investigations represents only the best knowledge of the Department as to the location, character or quantity of the materials encountered and is only included for the convenience of the bidder. The Department assumes no responsibility whatever in respect to the sufficiency or accuracy of the information, and there is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work, or that unanticipated developments may not occur.

The bidder will be permitted to see and examine this information for whatever value he considers it worth. Any additional borings deemed necessary by the bidder shall be made at his own expense. It is expected that each bidder will, prior to submitting his bid, visit the site of the work, examine the local conditions, inform himself as to the accessibility of the work, and ascertain the character of the material to be excavated and obtain such available information as will assist him to make an intelligent bid. Failure of a bidder to make such an examination may be held to be sufficient reason to reject his bid. No allowance will be made for failure of a bidder or contractor to estimate the difficulties attending the execution of the work.

SPECIAL PROVISION
FOR
STOCKPILED EMBANKMENT

All material excavated on site and designated to be used as fill on the plans or described as fill on the typical sections, cross sections, notes, details or specifications for this project shall be placed in accordance with Section 205 of the Standard Specifications for Road and Bridge Construction with the exception that no additional compensation will be allowed for this work and it will be considered as included in the contract unit price for Earth Excavation.

Furnished Excavation, Borrow Excavation, Porous Granular Embankment, Trench Backfill or any other specific fill material designated in the Summary of Quantities shall be paid for per the unit price for each respective item as specified. In the event that suitable material excavated on site is stockpiled for use as backfill in areas of unsuitable material excavation or due to construction staging, payment will be allowed for the additional movement of this material. Payment shall be measured as compacted in-place per cubic yard for Earth Excavation as provided for in the plans and as directed by the Engineer. No additional compensation will be made for material that is stockpiled but not used.

All surplus or unsuitable material will be wasted in accordance with Section 202 of the Standard Specifications for Road and Bridge Construction.

SPECIAL PROVISION
FOR
BORROW EXCAVATION

Description. The work for Borrow Excavation shall include furnishing, placing and compacting materials in conformance with Articles 205.03 through 205.06 of the Standard Specifications for Road and Bridge Construction.

Section 204 Borrow Excavation. Shall be revised to read:

Method of Measurement. Borrow Excavation shall be measured for payment in Cubic Yards compacted in place. The volume shall be determined by the method of average end areas by taking cross sections at such intervals as may be necessary before and after placing the material as required to complete the embankment as shown on the plans. Material excavated in excess of that required for the execution of the contract will not be measured for payment.

Basis of Payment. Borrow Excavation will be paid for at the Contract Unit Price per Cubic Yard for Borrow Excavation, measured as specified herein.

SPECIAL PROVISION
FOR
CRUSHED STONE (TEMPORARY USE)

Description. This work shall consist of furnishing and placing crushed stone for temporary use to provide and maintain ingress and egress to abutting properties during construction operations. It shall be used for access to intersecting roadways, alley returns, crosswalks and other places required by the Engineer. The crushed stone or gravel shall have a gradation of CA6 or CA10 conforming to Article 1004.01 of the State Standard Specifications. Excess materials recovered from the job site such as bituminous grindings and sub-base granular materials from existing pavements may be utilized at the discretion of the Engineer.

Basis of Payment. This work will be paid for at the Lump Sum for Crushed Stone (Temporary Use). An estimated quantity may be given in the plans for informational use only. The Lump Sum payment shall include furnishing, transporting, placing, maintaining, reusing and the ultimate disposal of the Crushed Stone (Temporary Use) as herein specified or as directed by the Engineer.

SPECIAL PROVISION
FOR
AGGREGATE SUBGRADE (12 INCH)

This work shall be done in accordance with the applicable portions of Section 207 of the Standard Specifications. The material shall conform to Article 1004.05 of the Standard Specifications except as follows:

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete will be permitted. Steel slag and other expansive materials as determined through testing by the Department will not be permitted.

Sieve Size	Percent Passing
6 inches (150mm)	97±3
4 inches (100mm)	90±10
2 inches (50mm)	45±25
#200 (75 μm)	5±5

2. Gravel, Crushed Gravel, and Pit Run Gravel

Sieve Size	Percent Passing
6 inches (150mm)	97±3
4 inches (100mm)	90±10
2 inches (50mm)	55±25
#4 (4.75mm)	30±20
#200 (75 μm)	5±5

3. Crushed Concrete with Bituminous Materials*

Sieve Size	Percent Passing
6 inches (150mm)	97±3
4 inches (100mm)	90±10
2 inches (50mm)	45±25
#4 (4.75mm)	20±20
#200 (75 μm)	5±5

*The Bituminous material shall be separated and mechanically blended with the crushed concrete so that the bituminous material does not exceed 40% of the final product. The top size of the bituminous material in the final product shall be less than 4 inches (100mm) and shall not contain more than 10.0% steel slag RAP or any material that is considered expansive by the Department.

The Aggregate Subgrade shall be placed in two lifts consisting of a 9 inch (225mm) and variable nominal thickness lower lift and a 3 inch (75 mm) nominal thickness top lift of capping aggregate having a gradation of CA 6. The CA 6 may be blended as follows. The bituminous materials shall be separated and mechanically blended with interlocking feeders with crushed concrete or natural aggregate, in a manner that the bituminous material does not exceed 40% of the final product. This process shall be approved by the Engineer prior to start of production. The top side of the bituminous material in the final products shall be less than 1½ inch (37.5mm) and shall not contain any material considered expansive by the department. Reclaimed Asphalt Pavement (RAP) (having a maximum of 10% steel slag RAP) meeting the requirements of Article 1031 of the Standard Specifications and having 100% passing the 1½ inch (37.5mm) sieve and well graded down through fines may also be used as capping aggregate. IDOT testing of the RAP material will be the determining factor for determining the percent steel slag RAP or Expansive Material. When the contract specifies that an aggregate subbase is to be placed on the Aggregate Subgrade, the 3 inch (75 mm) of capping aggregate will be eliminated. A vibratory roller meeting the requirements of Article 1101.01(g) of the Standard Specifications shall be used to roll each lift of material to obtain the desired keying or interlock and necessary compaction. The Engineer will verify that adequate keying has been obtained.

When a recommended remedial treatment for unstable subgrades is included in the contract, the lower lift of Aggregate Subgrade may be placed simultaneously with the material for Porous Granular Embankment, Subgrade when the total thickness to be placed is 2 feet (600mm) or less.

Method of Measurement.

1) Contract Quantities. Contract quantities shall be in accordance with Article 202.07.

2) Measured Quantities. Aggregate Subgrade will be measured in place and the area computed in square yards (square meters).

Basis of Payment. This work will be paid for at the contract unit price per square meter (square yard) for Aggregate Subgrade, 12", which price shall include the capping aggregate.

SPECIAL PROVISION
FOR
P.C. CONCRETE SURFACE FINISH

All P.C. Concrete Pavement shall have a Type B final finish as specified in Article 420.09 (e)(2) of the Standard Specifications.

Special Provision for Scheduling and Landscaping

1. Once the contract is awarded and the notice to proceed is provided by the Department, the contractor can start. No permanent lane closures or staging will be allowed along Crawford Avenue until April 1, 2014 without the approval of the Resident Engineer. Lane closures on roadways under IDOT jurisdiction, including Devon Avenue, Lincoln Avenue, Touhy Avenue, and Howard Street-east-of-Crawford Avenue will not be allowed before April 15, 2014.

2. The final completion date for this project is **August 28, 2015.** All work on this improvement shall be complete on the completion date with exception of landscaping as designated herein.

3. Temporary lane closures in addition to approved maintenance of traffic will be restricted to Monday through Saturday from 9 a.m. to 3 p.m. Any work outside that time must be in accordance with the local noise ordinances and approved by the Resident Engineer.

4. The Contractor is required to notify the Resident Engineer and the municipalities at least 14 days in advance of any street or driveway closure.

5. The contractor will schedule and coordinate with the Resident Engineer construction work to minimize impact with major events and religious holidays (i.e. noise, access).

6. As approved by the Resident Engineer, Contractor will be allowed to close residential cross streets for a maximum of 1 week duration to construct pavement. Adjacent cross streets may not be closed simultaneously. Failure to open cross street after 1 week of full closure will result in liquidated damages of $200/day.

7. As approved by the Resident Engineer, Contractor will be allowed to close residential driveways for a maximum of 3 week duration to complete work. Failure to open driveway after 3 week closure will result in liquidated damages of $200/day.

8. The Contractor will schedule and coordinate with the Resident Engineer construction work near the schools along Crawford Avenue to minimize impact to school operations. Cross streets which provide access to schools, including Green Leaf Avenue, Lunt Avenue, Howard Street and Dobson Street shall remain open during the school year. Full closure of these streets in accordance with item number 5 of this special provision will only be allowed between June 7 and August 15.

9. An interim completion date of **June 30, 2014** is mandated to open Crawford Avenue from Devon Avenue to Lincoln Avenue to two-way traffic.

10. An interim completion date of **November 21, 2014** is mandated for the following: pavement, curb & gutter, storm sewer, water main, landscape median, and all major work to Crawford Ave south of Howard Street.

    A. All mainline pavement, curb & gutter, drainage and traffic signal work south of the centerline of Howard Street

    B. Installation of the proposed storm sewer and Lincolnwood water main.

    C. Install landscaped median between Pratt Blvd. to south of Howard Street. (sod, plants and trees may be installed later)

11. The Improvement will restart the following year on March 1, 2015 or another date with the approval of the Resident Engineer.

12. All landscaping items contained in this contract shall be undertaken and completed in accordance with the seasonal restrictions found in the plans, specifications and special provisions. This work, or portions thereof, shall be undertaken as directed by the Engineer, and a total of five (5) working days beyond the contract final completion date is allowed in order to complete landscaping work.

13. Failure to meet the interim completion dates and final completion date for the above specified work will result in liquidated damages being applied according to Article 108.09 of the Standard Specifications.

SPECIAL PROVISION
FOR
TEMPORARY BUTT JOINTS

Description. Immediately after the removal of the existing hot-mix-asphalt surface, Temporary Butt Joints shall be constructed at the saw cut limits of removal. The Butt Joints are to be constructed with Hot-Mix-Asphalt Surface Course or Leveling Binder and compacted as directed by the Engineer. A coated paper bond breaker shall be placed between the Butt Joint and the existing surface.

The Butt Joints shall be removed and the exposed surfaces primed just prior to the placement of the specified Hot-Mix-Asphalt paving material.

Temporary Butt Joints shall be measured in Feet (Meters).

Basis of Payment. The cost of constructing and removing the Butt Joints shall be paid for at the Contract Unit Price per Foot (Meter) for Temporary Butt Joints.

SPECIAL PROVISION
FOR
TEMPORARY BY-PASS PAVEMENT

Description. This work shall consist of furnishing and placing a Temporary By-Pass Pavement providing sufficient pavement width to accommodate routing of traffic during construction. This additional by-pass pavement, plus that portion of the existing pavement to be used for traffic during construction shall be surfaced with 1-1/2 In. of Leveling Binder (Machine Method) before the By-Pass pavement becomes operational. At the direction of the Engineer, Bituminous Materials (Prime Coat) and Aggregate (Prime Coat) may be applied to the by-pass pavement before resurfacing. Items have been included in the Summary of Quantities for this work. Under no circumstances should Polymerized Leveling Binder be used for this purpose. Leveling Binder (Machine Method), N50 or an approved alternate material shall be used. In addition, the Engineer retains the discretion to limit the resurfacing to only the by-pass pavement as circumstances dictate such as when temporary by-pass pavement is placed adjacent to a newly constructed Hot-Mix-Asphalt surface.

At the option of the contractor, the Temporary By-Pass Pavement Base Course shall be constructed with one of the following pavement compositions and its associated specifications:

1) Hot Mix Asphalt Stabilized Subbase, 9 In.

2) P.C. Concrete Base Course, 6 In.

Mix requirements as specified in the plans shall be used for the Hot Mix Asphalt Stabilized Subbase and Leveling Binder with the exception that the percentage of allowable RAP may be increased to a maximum of 50% for the Hot Mix Asphalt Stabilized Subbase material used for temporary by-pass pavement.

On Temporary By-pass roads or pavement, Temporary Raised Reflective Markers shall be used throughout the construction area and approaches and spaced at forty (40) foot intervals. Their placement and replacement, as needed, shall be considered incidental to the cost of Traffic Protection.

Basis of Payment. This work shall be paid for at the contract unit price per Square Yard for Temporary By-Pass Pavement, which shall include payment in full for the necessary excavation, grading and maintenance of the by-pass road while in operation, including that portion of the existing roadway serving as by-pass pavement and the subsequent removal of the new temporary by-pass pavement; per Ton for Leveling Binder (Machine Method); per Gallon for Bituminous Materials (Prime Coat); and per Ton for Aggregate (Prime Coat).

SPECIAL PROVISION
FOR
STORM SEWERS, ABANDON & FILL

Description. This work shall be in accordance with Section 605 of the Standard Specifications insofar as applicable and the following provisions.

Materials. Flowable Fill shall be used in accordance with Section 593 of the Standard Specifications for Controlled Low-Strength Material (CLSM) to fill the pipe to be abandoned with the exception of ends to be capped. The cap shall be constructed in manner specified by Cook County Department of Transportation and Highways, Special Provision (No. 169) for Plugging Existing Drains and Sewers.

Basis of Payment. This work shall be paid for at the contract unit price CU.YD. for Storm Sewers, Abandon & Fill and shall include removal of cut section of existing sewer, materials, labor and equipment necessary. The caps will be paid for under the unit price each for Plugging Existing Drains and Sewers of the appropriate size. The Flowable Fill will not be paid for separately, but instead included in the contract unit price CU.YD. for Storm Sewers, Abandon & Fill.

SPECIAL PROVISION
FOR
PLUGGING EXISTING DRAINS AND SEWERS

Description: This work involves the plugging of all existing domestic and industrial drains and street sewers that are encountered within the construction limits of this improvement in accordance with these special provisions.

Construction Methods: All existing domestic and industrial drains and street sewers shall be removed to a point where the depth of the top of the drain or sewer is a minimum of three feet below finished grade. The remaining portion shall then be plugged with Class SI Concrete for a distance of two (2) feet from the aforementioned point. Care shall be taken to provide a water tight concrete plug without voids.

Method of Measurement: Where known, drains and sewers to be plugged are shown on the plans. The amount of this work shown in the quantities is an estimate considered reasonably adequate for this project, however, it shall be the responsibility of the Contractor to investigate and determine where all such drains and sewers exist and to perform the required work as provided for herein.

The length of drains and sewers which are required for removal under this item of work, including the excavation pertinent thereto, shall be considered only from the finished grade beyond the limits of Earth Excavation.

The pay quantity of drains and sewers to be plugged shall be determined by the Engineer at the time of construction.

Basis of Payment: This work shall be paid for at the contract unit prices each for Plugging Existing Drains and Sewers (12 In. or Less) and Plugging Existing Drains and Sewers (Over 12 In.), which prices shall include the cost of all excavation, removal of existing drains and sewers, backfilling, disposal of all waste materials, and the furnishing and placing of the Class SI Concrete together with all labor, tools and equipment necessary to complete the work in accordance with the plans and these special provisions.

SPECIAL PROVISION
FOR
BLOCKING EXISTING DRAINS AND SEWERS

Description. This item shall consist of the blocking of abandoned sewer lines at existing manholes and/or catch basins, where called for on the plans.

Construction Methods. Where called for on the plans, sewers shall be blocked at the manhole or catch basin with a concrete plug of Class SI Concrete, tamped to form a dense, waterproof block, troweled smooth to conform to the inside contour of the manhole or catch basin. For sewers 18 inches in diameter or less, the concrete block shall be 12 inches thick and for sewers over 18 inches in diameter the concrete block shall be 24 inches thick.

Basis of Payment. This work will be paid for at the contract unit prices each for Blocking Existing Drains and Sewers (18 in. or less) and Blocking Existing Drains and Sewers (Over 18 in.) which price shall include all labor and materials to complete the work in accordance with the plans and these special provisions.

SPECIAL PROVISION
FOR
MANHOLES, TYPE A, WITH RESTRICTOR PLATE, FRAMES AND LIDS

Description. This work shall consist of constructing restrictor plate manholes at locations shown on the plans or as directed by the Engineer, in accordance with Section 602 of the Standard Specifications.

The manholes shall be based on Type A manhole. Frames and lids shall be as shown in the Standard for Restrictor Frame and Lid – Type 1 and shall meet the requirements of Section 602 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price per each for Manholes, Type A, ___Ft. Dia. with Restrictor Plate, Frames and Lids, which price will be payment in full for all work and materials including restrictor plate, frame and lid, excavation, backfill, and labor.

SPECIAL PROVISION
FOR
LIDS AND FRAMES AND LIDS

Description. Where the term lids is used in the Summary of Quantities, on County Transportation and Highways Standards and in the Plans, it shall be considered synonymous with the term grates and be subject to the provisions of Article 604 of the State Standard Specifications for Road and Bridge Construction.

Basis of Payment. This work shall be paid for at the contract unit price each for Lids and for Frames and Lids of the type specified, which price shall include the cost of the mortar bed.

SPECIAL PROVISION
FOR
PAVEMENT REPLACEMENT

Description. This work shall consist of the removal and replacement, and any necessary excavation and embankment of all surface, base course, and subbase as shown on the plans. Where all of the pavement, including subbase, base and surface course, is to be replaced, the item will be specified as "Pavement Replacement". If only surface course, binder course, cushion and joint filler is to be replaced, the item will be specified as "Pavement Replacement - Surface Course". The term "excavation" or "embankment" as used in this Article refers only to that necessary for the preparation of the subgrade, where the "Pavement Replacement" is full depth.

Materials. Materials shall meet the requirements of Division 1000 - Materials.

Construction Requirements.

General. All base, surface courses or subbase removed shall be restored to the original cross section. The elevation of the surface of the replaced surface course shall not vary more than 1/8 inch (3 mm) from the elevation of the surface of the adjoining surface course. The subgrade in the case of surface, base course and subbase removal, and the cushion or filler on the base course in the case of surface course removal, shall be adjusted so that this result will be obtained. Pavement damaged by reason of construction operations outside of the working limit of 2 feet (600 mm) from the form line specified shall be replaced by the Contractor at his/her own expense.

Portland Cement Concrete Base and Surface Courses. Portland cement concrete base or surface courses or natural cement concrete base or surface courses which are removed shall be replaced with portland cement concrete base or surface courses meeting the requirements of Sections 353 and 420, respectively, except that hand methods of consolidating and finishing will be permitted.

Brick, Granite Block and Wood Block Surface Courses. Brick, granite block or wood block surface courses which are removed shall be replaced if specified on the plans or directed by the Engineer. Whole sound brick, granite blocks or wood blocks taken from the original surface course shall be used in the replacement. If additional brick, granite blocks or wood blocks are required, the Contractor shall furnish a similar type and size to those which are being replaced. Brick, granite block or wood block surface course shall be laid on a sand or limestone screenings cushion approximately 1 inch (25 mm) thick, and shall have the joints filled with asphalt. The surface or base, may be restored to the proper elevation by use of an approved compacted bituminous material or air-entrained portland cement concrete.

Bituminous Surface and Binder Courses. Bituminous surface and binder courses which are removed shall be replaced by an equal thickness of bituminous materials meeting the requirements of Section 406. The type used shall be that which closely conforms to the type which was removed, and shall be approved in writing by the Engineer.

Gravel or Crushed Stone Base and Surface Courses. Gravel or crushed stone base and surface courses which are removed shall be replaced by an equal thickness of materials meeting the requirements of Section 351 or Section 402. The type used shall be that which closely conforms to the type which was removed and shall be approved in writing by the Engineer.

Base and Subbase Replacement. All granular or stabilized base and subbase which are removed shall be replaced with an equal compacted thickness of material which closely conforms to the original material removed and shall be compacted to the density requirements of the granular or stabilized base and subbase removed.

Disposal of Surplus Material. Surplus or waste material resulting from the removal and replacement operations shall be disposed of by and at the expense of the Contractor according to Article 202.03.

Method of Measurement. Pavement Replacement and Pavement Replacement - Surface Course, will be measured in place, and the area computed in square yards (square meters). Pavement or surface course damaged by reason of construction operations outside of the working limit of 2 feet (600 mm) from the form line specified will not be measured for payment.

Basis of Payment. This work will be paid for at the contract unit price per square yard (square meter) for Pavement Replacement or Pavement Replacement – Surface Course, which prices shall include any required earth excavation or embankment described herein.

SPECIAL PROVISION
FOR
COOPERATION WITH UTILITIES

This special provision amends the provisions of Article 105.07 of the Standard Specifications and includes a section clarifying the utility information provided in the plans and specifications.

105.07 - Cooperation with Utilities. Revise the last paragraph regarding (a) known Utilities to read:

> "No additional compensation will be allowed for any delays, inconveniences, or damage sustained by the Contractor due to any interference from the said utility appurtenances or the operation of moving them either by the utility company or by him; or on account of any special construction methods required in prosecuting his work due to the existence of said appurtenances either in their present or relocated positions."

105.07 - Cooperation with Utilities. Delete subarticle 105.07 (b) Unknown Utilities and substitute the following:

(b) Unknown Utilities. The requirements stated above for known utilities shall apply to unknown utilities.

Examination of Plans, Specifications, Special Provisions and Site of Work.

The bidder shall, before submitting a bid, carefully examine the provisions of the contract. The bidder shall inspect in detail the site of the proposed work, investigate and become familiar with all the local conditions affecting the contract and fully acquaint themselves with the detailed requirements of construction. Submission of a bid shall be a conclusive assurance and warranty the bidder has made these examinations and the bidder understands all the requirements for the performance of the work. If his/her bid is accepted, the bidder shall be responsible for all errors in the proposal resulting from his/her failure or neglect to comply with these instructions. The Department will, in no case, be responsible for any costs, expenses, losses, or change in anticipated profits resulting from such failure or neglect of the bidder to make these examinations.

The bidder shall take no advantage of any error or omission in the proposal and advertised contract. Any prospective bidder who desires an explanation or interpretation of the plans, specification, or any of the contract documents shall request such in writing from the Department, in sufficient time to allow a written reply by the Department that can reach all prospective bidders before the submission of their bids. All information and changes made to the contract will be communicated through an addendum. Only changes made through the addendum will be binding to the Department. When the plans or special provisions include information pertaining to the location of underground utility facilities, such information represents only the opinion of the Department as to the location of such utilities and is only included for the convenience of the bidder. The Department assumes no responsibility whatever in respect to the sufficiency or the accuracy of the information shown on the plans relative to the location of underground utility facilities. It shall be the Contractor's responsibility to determine the actual location of all such facilities including field verification of both vertical and horizontal locations relative to the work. He shall also obtain from the respective utility companies detailed information relative to the location of their facilities and the working schedules of the utility companies for removing or adjusting them.

It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances in their present or relocated positions. The Contractor's attention is directed to the fact that the various utility companies may be relocating and constructing facilities within the project limits concurrent with the Contractor's operations. The Contractor shall coordinate his activities with the various utility companies, at all times, and may be required to work at other locations of the improvement until relocation and construction is completed by the utility company. The Contractor is advised that the relocation times and schedules listed in the special provision "Status of Utilities to be Adjusted" are only rough estimates and no extra compensation will be allowed for delays resulting from any work performed by a utility company or for their failure to meet said relocation schedule.

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STATUS OF UTILITIES
UTILITIES TO BE ADJUSTED
CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
SECTION: 08-W4337-03-PV

Name & Address Of Utility Company	Type	Estimated Date Of Completion
Commonwealth Edison Company 1500 Franklin Blvd. Libertyville, IL 60048 Attn: Terri Bleck (847) 816-5239 Terri.bleck@comed.com James Torres (312) 394-3260 Joseph McGowan (630) 576-7115	Aerial cables crossing Crawford Avenue at Sta. 978+20. Buried cables crossing Crawford Avenue at Sta. 978+20. Buried cables from Sta. 978+20 to Schreiber Avenue along Crawford Avenue east parkway. Buried cables along Schreiber Avenue south parkway. Aerial cables crossing Crawford Avenue at Sta. 996+50. Buried cables from the pole at Sta. 996+50, 40' R to the pole at Sta. 996+95, 43' R. Aerial cables from the pole at Sta. 996+50 to the pole at Sta. 998+80 along Crawford Avenue east parkway. Buried cables crossing Crawford Avenue at Sta. 1003+00. Aerial cables crossing Crawford Avenue north of Lunt Avenue. Aerial cables crossing Crawford Avenue at Sta. 1028+00. Aerial cables crossing Crawford Avenue at Sta. 1030+60 Aerial cables crossing Crawford Avenue at Sta. 1043+30.	ComEd will complete all relocation work, if needed prior to 3-14-2014. ComEd will coordinate relocation work Comcast and RCN.

ComEd (Cont'd.)	Aerial cables from Sta. 1044+65 to Sta. 1045+95 along Crawford Avenue east parkway. Aerial cables crossing Crawford Avenue at Sta. 1054+60. Aerial cables crossing Crawford Avenue diagonally at Sta. 1055+20. Aerial cables crossing Crawford Avenue diagonally at Sta. 1056+30. Aerial cables from Sta. 1066+50 to Sta. 1069+81 along Crawford Avenue west parkway. Aerial cables crossing Crawford Avenue at Sta. 1069+81.	
AT&T 1000 Commerce Drive, Floor 2 Oakbrook, IL 60523 Attn: Steven Larson (630) 573-6484 Sl2971@att.com cc: Thomas Follin (630) 573-6477 Tf1858@att.com	20 MTD along Lincoln Avenue and crossing Crawford Avenue at Sta. 1000+23. Buried copper cable in the west parkway of Crawford Avenue, 35' L from MH at the intersection of Lincoln Avenue. Manhole 44 in the pavement of Lincoln Avenue just west right of way Crawford Avenue R. Buried cable in the west parkway of Crawford Avenue 25' L from Sta. 994+00 to Sta. 998+00.	AT&T will complete all relocation work, if needed prior to 3-31-2014.

Nicor Gas Company 1844 Ferry Road Naperville, IL 60563 Attn: Constance Lane (630) 388-3830 clane@aglresources.com cc: Duc Le (630) 317-2242 dle@aglresources.com Erik Schultz (630) 432-6276 eschultz@enengineering.com	*2" gas main from Sta. 978+70 to Arthur Avenue along Crawford Avenue, 18' R. *2" gas main from Arthur Avenue to Wallen Avenue along Crawford Avenue east parkway, 25' R (Varies) *2" gas main along C.L. of Schreiber Avenue. *2" gas main along north side of Arthur Avenue. * 2" gas main along north side of Loyola Avenue. *2" gas main along south side of Albion Avenue. *2" gas main along north side of Wallen Avenue. *2" gas main from Wallen Avenue to Lincoln Avenue along Crawford Avenue east parkway, 36' R (Varies) *8" gas main along Lincoln Avenue north parkway, 46' R. *6" gas main from West of Pratt Avenue to Morse Avenue along Crawford Avenue west parkway, 36' L (Varies) *2" gas main crossing Crawford Avenue near Morse Avenue. *2" gas main from Morse Avenue to Estes Avenue along Crawford Avenue west parkway, 31' L (Varies) *2" gas main from Lunt Avenue to Estes Avenue along Crawford Avenue east parkway, 33' R (Varies). *12" and 6" gas mains stubs on the east side of Crawford Avenue near Lunt Avenue. *2" gas main along north side of Greenleaf Avenue. *2" and 6" gas mains stubs on the west side of Crawford Avenue near Estes Avenue. *2" gas main crossing Crawford Avenue near Estes Avenue. *2" gas main from Estes Avenue to Sta. 1026+80 along Crawford Avenue, 33' L. *2" gas main from Sta. 1026+80 to Sta. 1027+80 along Crawford Avenue, 31' L. *2" gas main along south side of Fitch Avenue. *12" stub on the east side of Crawford Avenue near Fitch Avenue. *12" stub on the east side of Crawford Avenue near Touhy Avenue. *6" stub on the west side of Crawford Avenue near Touhy Avenue. *12" stub crossing Crawford Avenue near Touhy Avenue. *2" gas main from Sta. 1032+23 to Sta. 1035+03 along Crawford Avenue, 32' L. *2" gas main crossing Crawford Avenue near Jarlath Street.	Nicor will complete all relocation work prior to 3-31-2014.

Nicor Gas Company (Cont'd)	*2" gas main from Jarlath Street to Chase Avenue along Crawford Avenue, 33' R (Varies) *6" stub on the west side of Crawford Avenue near Chase Avenue. *6" stub crossing Crawford Avenue near Chase Avenue. *2" gas main from north of Chase Avenue to north of Jarvis Avenue along Crawford Avenue, 31' L. *2" gas main from Chase Avenue to south of Jarvis Avenue along Crawford Avenue, 33' R. *2" gas main crossing Crawford Avenue south of Jarvis Avenue. *2" gas main on the south side Scherer Avenue. *6" stub crossing Crawford Avenue near Jarvis Avenue. *6" stub on the east side of Crawford Avenue near Scherer Avenue. *2" gas main from Jarvis Avenue to Birchwood Avenue along Crawford Avenue, 32' L. *2" gas main crossing Crawford Avenue near Fargo Avenue. *2" gas main from Birchwood Avenue to south of Howard Street along Crawford Avenue, 33' L. *16" stub on the east side of Crawford Avenue near Birchwood Avenue. *2" gas main from Birchwood Avenue to north of Jerome Street, 33' R. *2" gas main on the north side of Jerome Street. *8" gas main crossing Crawford Avenue near Howard Street. *2" gas main from north of Howard Street to south of Dobson Street along Crawford Avenue, 32' L. *2" gas main on the south side of Dobson Street, east and west sides of Crawford Avenue. *6" stub crossing Crawford Avenue near Dobson Street. *6" stub on the west side of Crawford Avenue near Dobson Street. *16" stub on the east side of Crawford Avenue near Dobson Street. *2" gas main from north of Dobson Street to Brummel Street along Crawford Avenue, 32' L. *2" gas main from Brummel Street to south of Harvard Street along Crawford Avenue, 33' L. *2" gas main from north of Dobson Street to Harvard Street along Crawford Avenue, 32' R.	

Nicor Gas Company (Cont'd)	*2" gas main from Harvard Street to Sta. 1068+00 along Crawford Avenue, 33' R. *2" gas main on the south side of Brummel Street, east and west sides of Crawford Avenue. *2" gas main on the south side of Harvard Street, east and west sides of Crawford Avenue. *6" stub on the west side of Crawford Avenue near Harvard Street. *2" gas main from north of Mullford Street to Sta. 1082+00 along Crawford Avenue, 31' L. *2" gas main from Mullford Street to Sta. 1082+00 along Crawford Avenue, 33' R (Varies) *2" gas main along Mullford Street, north side. *2" gas main along Hill street, north side. *16" stub on the east side of Crawford Avenue near Hill Street. *2" gas main along Kirk Street, north side.	

Comcast 688 Industrial Drive Elmhurst, IL 60126 Attn: Robert Schulter (630) 600-6347 Bob_schulter@cablecomcast.com cc: Ted Wyman (630) 600-6349 Ted_wyman@cable.comcast.com Tony Curtis (847) 789-0972 Tony_curtis@cable.comcast.com Pat Goheen (847) 789-0976	Buried cables from north of Schreiber Avenue to Loyola Avenue along Crawford Avenue east parkway. Buried cables from Wallen Avenue to Shore Avenue along Crawford Avenue east parkway. Buried cables crossing Crawford Avenue south of Shore Avenue. Aerial cables crossing Crawford Avenue north of Fitch Avenue. Aerial cables crossing Crawford Avenue south of Jarlath Avenue. Aerial cables crossing Crawford Avenue north of Jarvis Avenue. Aerial cables crossing Crawford Avenue south of Howard Street. Buried cables between Howard Street and Dobson Street along Crawford Avenue west parkway.	Comcast will complete all relocation work, if needed prior to 3-31-2014. Comcast will coordinate relocation work with ComEd and RCN.
RCN 2640 W. Bradley Place Chicago, IL 60618 Attn: Roberto Moya (312) 955-2229 Roberto.moya@rcn.net	Fiber optic and coax buried cables crossing Crawford Avenue near Harvard Terrace. Aerial fiber and coax cables crossing Crawford Avenue between Louise Street and Oakton Street. Aerial fiber and coax cables crossing Crawford Avenue between Jerome Street and Howard Street.	RCN will complete all relocation work, if needed prior to 3-31-2014. RCN will coordinate relocation work with ComEd and Comcast.

Metropolitan Water Reclamation District of Greater Chicago 111 East Erie Street Chicago, IL 60611-3154 Attn: Joseph Schuessler (312) 751-3236	7'-6"X8'-4" Howard Street intercepting sewer crossing Crawford Avenue at Sta. 1056+47. 7'-0" Diameter North Side intercepting sewer crossing Crawford Avenue near Morse Avenue.	Contractor will adjust manholes during construction.
Qwest Communications 13057 S. Monitor Avenue Palos Heights, IL 60463 Attn: Kevin Huff (708) 837-7927 Kevin.huff@centurylink.com cc: Kim Jordan (800) 283-4237	Buried cables crossing Crawford Avenue at Sta. 1075+94 near Kirk Street.	Not anticipating any conflicts.
Windstream KDL (McLeod) 1815 S. Meyers Road, Suite 900 Oakbrook Terrace, IL 60181 Attn: Paul Bauman (630) 925-4751 Kenneth.baumann@windstream.com	4-1 ¼ " duct crossing Crawford Avenue near Dobson Street (North side)	Not anticipating any conflicts.
Kinder Morgan/Natural Gas Pipeline Company of America 23725 W. County Farm Road Shorewood, IL 60431 Attn: John Hedrick (815) 272-9154 cc: Greg Smith (303) 914-7848	36" high pressure pipeline with a 42" steel casing located in the CTA right of way crossing Crawford Avenue south of Mullford Street.	Contractor shall contact Kinder Morgan during construction near the Pipeline. Also, see the attached Guidelines for construction near the pipeline.
Village of Skokie 5127 Oakton Street Skokie, IL 60077 Attn: Frederick Schattner Director of Engineering (847) 933-9289 Fred.Schattner@skokie.org cc: Erik Cook (847)933-8231 Erik.cook@skokie.org	*6" water main from Jarvis Avenue to Birchwood Avenue along Crawford Avenue, 13' L. *6" water main from Birchwood Avenue to north of Howard Street along Crawford Avenue, 15' to 20' L (Varies). *6" water main from north of Howard Street to north of Louise Street along Crawford Avenue, 13' L (Varies). *6" water main crossing Crawford Avenue near Fargo Avenue. *6" water main crossing Crawford Avenue near Birchwood Avenue. *12" water main crossing Crawford Avenue near Howard Street.	

Village of Skokie (Cont'd)	*6" water main crossing Crawford Avenue near Dobson Street. *6" water main crossing Crawford Avenue near Brummel Street. *6" water main crossing Crawford Avenue near Harvard Street. *6" water main crossing Crawford Avenue near Mullford Street. *6" water main crossing Crawford Avenue near Hull Street. *6" water main crossing Crawford Avenue near Kirk Street. *6" water main crossing Crawford Avenue near Louise Street. *12" sanitary sewer from north of Jarvis Avenue to south of Fargo Avenue along C.L of Crawford Avenue. *15" sanitary sewer from south of Fargo Avenue to Jerome Street along C.L of Crawford Avenue. *18" sanitary sewer from Jerome Street to Howard Street along C.L of Crawford Avenue. *18" sanitary sewer from Howard Street to Brummel Street along C.L of Crawford Avenue. *15" sanitary sewer from Brummel Street to Mullford Street along C.L of Crawford Avenue. *24" sanitary sewer from Mullford Street to Sta. 1071+25 along C.L. of Crawford Avenue. *18" sanitary sewer from Sta. 1071+25 to Sta. 1074+40 along C.L. of Crawford Avenue. *12" sanitary sewer from Sta.1074+40 to Sta. 1080+90 along C.L. of Crawford Avenue.	
Village of Lincolnwood 7001 Lawndale Avenue Lincolnwood, IL 60712 Attn: Manuel Castaneda Director of Public Works (847) 675-0888 mcastaneda@lwd.org cc: Jim Johnson (847) 675-08888 jjohnson@lwd.org Steven Berecz (847) 478-9700X113 sberecz@gha-engineers.com	*16" water main from Devon Avenue to Sta. 981+50 along Crawford Avenue west parkway. *20" water main crossing Crawford Avenue at Sta. 981+50. *20" water main from Sta. 981+50 to Sta. 1004+20 along Crawford Avenue west parkway. *10" water main crossing Crawford Avenue near Pratt Avenue. *20" water main crossing Crawford Avenue diagonally at Sta. 1004+40. *10" water main from Sta. 1004+20 to north of Touhy Avenue along Crawford Avenue, west side. *6" water main from north of Touhy Avenue to Jarvis Avenue along Crawford Avenue, west side.	

Village of Lincolnwood (Cont'd)	*6" water main crossing Crawford Avenue near Lunt Avenue. *6" water main crossing Crawford Avenue near Greenleaf Avenue. *6" water main crossing Crawford Avenue near Estes Avenue. *6" water main crossing Crawford Avenue near Fitch Avenue. *4" and 8" water mains crossing Crawford Avenue near Touhy Avenue. 6" water main crossing Crawford Avenue near Jarlath Avenue. 6" water main crossing Crawford Avenue near Chase Avenue. 6" water main crossing Crawford Avenue near Sherwin Avenue. 6" water main crossing Crawford Avenue near Jarvis Avenue. 18" sanitary sewer from North Shore Avenue to Pratt Avenue along Crawford Avenue, 25' to 20' L. *60" sanitary sewer from Pratt Avenue to south of Touhy Avenue along C.L of Crawford Avenue. *24" sanitary sewer from south of Touhy Avenue to north of Jarlath Avenue along C.L of Crawford Avenue. *15" sanitary sewer from north of Jarlath Avenue to Chase Avenue along C.L of Crawford Avenue. *12" sanitary sewer from Chase Avenue to south of Jarvis Avenue along C.L of Crawford Avenue. *15" sanitary sewer along North Shore Avenue. *72" and 78" sanitary sewers crossing Crawford Avenue near Pratt Avenue. *12" sanitary sewer crossing Crawford Avenue near Morse Avenue. *27" sanitary sewer crossing Crawford Avenue near Lunt Avenue. *60" sanitary sewer crossing Crawford Avenue near Touhy Avenue.	

Chicago Transit Authority 567 W. Lake Street Chicago, IL 60680 Attn: Jim Harper Chief Engineer (312)-681-3960 jharper@transitchicago.com Jeanette Mitchell (312) 681-3983 jmitchell@transitchicago.com	CTA will modify the signal lights at Skokie Swift crossing.	

NOTE: All underground utilities shall be located by the Contractor prior to the start of construction. The location of the Traffic Signal Post Foundations and Handholes shall be adjusted accordingly to avoid conflict with the utilities. **Watch and Protect all utilities.**

The above represents the best information available to the County and is included for the convenience of the bidder. Utility relocation startup date is assumed to be from the date the R.O.W. is staked and permits are secured unless otherwise noted. The applicable provisions of Articles 105.07, 107.20 and 107.31 of the Standard Specifications for Road and Bridge Construction and Cook County Special Provision #185 shall apply.

The Contractor's attention is directed to the fact that the various utility companies will be relocating and constructing facilities within the project limits concurrent with the Contractor's operations. The Contractor shall coordinate his activities with the various utility companies, at all times, and may be required to work only on portions of the improvement until relocation and construction is completed. The Contractor is advised that the relocation times and schedules listed herein are only estimates provided by the utility company. No extra compensation will be allowed for delays resulting from any work performed by a utility company or for their failure to meet said relocation schedule.

NOTE: All Sanitary Sewer Manholes to be Adjusted shall be waterproofed in accordance with Special Provision #194 for Waterproofing Sanitary Sewer Manholes.

The Contractor should contact J.U.L.I.E. at least 48 hours before start of construction at 1-800-892-0123 for all utility locations.

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KINDER MORGAN

Guidelines for Design and Construction near Kinder Morgan Operated Facilities

Name of Company: Natural Gas Pipeline Company of America, LLC (NGPL)

The list of design, construction and contractor requirements, including but not limited to the following, for the design and installation of foreign utilities or improvements on KM right-of-way (ROW) are not intended nor do they waive or modify any rights KM may have under existing easements or ROW agreements. Reference existing easements and amendments for additional requirements. This list of requirements is applicable for KM facilities on easements only. Encroachments on fee property should be referred to the ROW Department.

Design

- KM shall be provided sufficient prior notice of planned activities involving excavation, blasting, or any type of construction on KM's ROW to determine and resolve any location, grade or encroachment problems and provide protection of our facilities and the public **before** the actual work is to take place.
- Encroaching entity shall provide KM with a set of drawings for review and a set of final construction drawings showing all aspects of the proposed facilities in the vicinity of KM's ROW. The encroaching entity shall also provide a set of as-built drawings showing the proposed facilities in the vicinity of KM's ROW.
- Only facilities shown on drawings reviewed by **NGPL** (Company) will be approved for installation on KM's ROW. All drawing revisions that effect facilities proposed to be placed on KM's ROW must be approved by KM in writing.
- KM shall approve the design of all permanent road crossings.
- Encroaching entity shall, at the discretion of the Kinder Morgan, Inc., incorporate Heath ATI "sniffer" Gas Detection Units in the design of paved areas or "Green Belt" areas of KM ROW. The units shall be installed per KM Standard **TYP-V-0100-B010**.
- Any repair to surface facilities following future pipeline maintenance or repair work by KM will be at the expense of the developer or landowner.
- The depth of cover over the KM pipelines shall not be reduced nor drainage altered without KM's written approval.
- Construction of any permanent structure, building(s) or obstructions within KM pipeline easement is **not** permitted.
- Planting of shrubs and trees is not permitted on KM pipeline easement.
- Irrigation equipment i.e. backflow prevent devices, meters, valves, valve boxes, etc. shall not be located on KM easement.
- Foreign line, gas, water, electric and sewer lines, etc., may cross perpendicular to KM's pipeline within the ROW, provided that a minimum of two (2) feet of vertical clearance is maintained between KM pipeline(s) and the foreign pipeline. Constant line elevations must be maintained across KM's entire ROW width, gravity drain lines are the only exception. Foreign line crossings below the KM pipeline must be evaluated by KM to ensure that a significant length of the KM line is not exposed and unsupported during construction. When installing underground utilities, the last line should be placed beneath all existing lines unless it is impractical or unreasonable to do so. Foreign line crossings above the KM pipeline with less than 2 feet of clearance must be evaluated by KM to ensure that additional support is not necessary to prevent settling on top of the KM natural gas pipeline.
- A foreign pipeline shall cross KM facilities at as near a ninety-degree angle as possible. A foreign pipeline shall not run parallel to KM pipeline within KM easement without written permission of KM.
- The foreign utility should be advised that KM maintains cathodic protection on their pipelines. The foreign utility must coordinate their cathodic protection system with KM's. At the request of KM, foreign utilities shall install (or allow to be installed) cathodic protection test leads at all crossings for the purposes of monitoring cathodic protection. The KM Cathodic Protection (CP) technician and the foreign utility CP technician shall perform post construction CP interference testing. Interference issues shall be resolved by mutual agreement between foreign utility and KM. All costs associated with the correction of cathodic protection problems on KM pipeline as a result of the foreign utility crossing shall be borne by the foreign utility for a period of one year from date the foreign utility is put in service.

- The metallic foreign line shall be coated with a suitable pipe coating for a distance of at least 10 feet on either side of the crossing unless otherwise requested by the KM CP Technician.
- AC Electrical lines must be installed in conduit and properly insulated.
- DOT approved pipeline markers shall be installed so as to indicate the route of the foreign pipeline across the KM ROW.
- No power poles, light standards, etc. shall be installed on KM easement.

Construction

- Contractors shall be advised of KM's requirements and be contractually obligated to comply.
- The continued integrity of KM's pipelines and the safety of all individuals in the area of proposed work near KM's facilities are of the utmost importance. Therefore, contractor must meet with KM representatives prior to construction to provide and receive notification listings for appropriate area operations and emergency personnel. **KM's on-site representative will require discontinuation of any work that, in his opinion, endangers the operations or safety of personnel, pipelines or facilities.**
- The Contractor must expose all KM transmission and distribution lines prior to crossing to determine the exact alignment and depth of the lines. A KM representative must be present. In the event of parallel lines, only one pipeline can be exposed at a time.
- KM will not allow pipelines to remain exposed overnight without consent of KM designated representative. Contractor may be required to backfill pipelines at the end of each day.
- A KM representative shall do all line locating. A KM representative shall be present for hydraulic excavation. The use of probing rods for pipeline locating shall be performed by KM representatives only, to prevent unnecessary damage to the pipeline coating.
- Notification shall be given to KM at least 72 hours before start of construction. A schedule of activities for the duration of the project must be made available at that time to facilitate the scheduling of Kinder Morgan, Inc.'s work site representative. Any Contractor schedule changes shall be provided to Kinder Morgan, Inc. immediately.
- Heavy equipment will not be allowed to operate directly over KM pipelines or in KM ROW unless written approval is obtained from **NGPL** (Company). Heavy equipment shall only be allowed to cross KM pipelines at locations designated by Kinder Morgan, Inc. Contractor shall comply with all precautionary measures required by KM to protect its pipelines. When inclement weather exists, provisions must be made to compensate for soil displacement due to subsidence of tires.
- Excavating or grading which might result in erosion or which could render the KM ROW inaccessible shall not be permitted unless the contractor/developer/owner agrees to restore the area to its original condition and provide protection to KM's facility.
- A KM representative shall be on-site to monitor any construction activities within twenty-five (25) feet of a KM pipeline or aboveground appurtenance. The contractor **shall not** work within this distance without a KM representative being on site. Only hand excavation shall be permitted within a minimum of 18 inches (refer to state specific rules/regulations regarding any additional clearance requirements) of KM pipelines, valves and fittings. However, proceed with extreme caution when within three (3) feet of the pipe.
- Ripping is only allowed when the position of the pipe is known and not within ten (10) feet of KM facility unless company representative is present. .
- Temporary support of any exposed KM pipeline by Contractor may be necessary if required by KM's on-site representative. Backfill below the exposed lines and 12" above the lines shall be replaced with sand or other selected material as approved by KM's on-site representative and thoroughly compacted in 12" lifts to 95% of standard proctor dry density minimum or as approved by KM's on-site representative. This is to adequately protect against stresses that may be caused by the settling of the pipeline.
- No blasting shall be allowed within 1000 feet of KM's facilities unless blasting notification is given to KM including complete Blasting Plan Data. A pre-blast meeting shall be conducted by the organization responsible for blasting.

KM shall be indemnified and held harmless from any loss, cost of liability for personal injuries received, death caused or property damage suffered or sustained by any person resulting from any blasting operations undertaken within 500 feet of its facilities. The organization responsible for blasting shall be liable for any and all damages caused to KM's facilities as a result of their activities whether or not KM representatives are present. KM shall have a signed and executed Blasting Indemnification Agreement before authorized permission to blast can be given.

No blasting shall be allowed within 300 feet of KM's facilities unless blasting notification is given to KM a minimum of one week before blasting. *(note: covered above)*KM shall review and analyze the blasting methods. A written blasting plan shall be provided by the organization responsible for blasting and agreed to in writing by KM in addition to meeting requirements for 500' and 1000' being met above. A written emergency plan shall be provided by the organization responsible for blasting. *(note: covered above)*

- **Any** contact with any KM facility, pipeline, valve set, etc. shall be reported immediately to KM. If repairs to the pipe are necessary, they will be made and inspected before the section is re-coated and the line is back-filled.
- KM personnel shall install all test leads on KM facilities.
- Burning of trash, brush, etc. is not permitted within the KM ROW.

Insurance Requirements

- All contractors, and their subcontractors, working on Company easements shall maintain the following types of insurance policies and minimum limits of coverage. All insurance certificates carried by Contractor and Grantee shall include the following statement: "Kinder Morgan and its affiliated or subsidiary companies are named as additional insured on all above policies (except Worker's Compensation) and waiver of subrogation in favor of Kinder Morgan and its affiliated or subsidiary companies, their respective directors, officers, agents and employees applies as required by written contract." **Contractor shall furnish Certificates of Insurance evidencing insurance coverage prior to commencement of work and shall provide thirty (30) days notice prior to the termination or cancellation of any policy.**

1. Statutory Coverage Workers' Compensation Insurance in accordance with the laws of the states where the work is to be performed. If Contractor performs work on the adjacent on navigable waterways Contractor shall furnish a certificate of insurance showing compliance with the provisions of the Federal Longshoreman's and Harbor Workers' Compensation Law.
2. Employer's Liability Insurance, with limits of not less than **$1,000,000** per occurrence and **$1,000,000** disease each employee.
3. Commercial General Liability Insurance with a combined single limit of not less than **$2,000,000** per occurrence and in the aggregate. All policies shall include coverage for blanket contractual liability assumed.
4. Comprehensive Automobile Liability Insurance with a combined single limit of not less than **$1,000,000.** If necessary, the policy shall be endorsed to provide contractual liability coverage.
5. If necessary Comprehensive Aircraft Liability Insurance with combined bodily injury, including passengers, and property damage liability single limits of not less than **$5,000,000** each occurrence.
6. Contractor's Pollution Liability Insurance this coverage shall be maintained in force for the full period of this agreement with available limits of not less then **$2,000,000** per occurrence.
7. Pollution Legal Liability Insurance this coverage must be maintained in a minimum amount of **$5,000,000** per occurrence.

SPECIAL PROVISION
FOR
WATER VALVE BOXES TO BE ADJUSTED AND DOMESTIC METER VAULTS TO BE ADJUSTED

Description. At various locations within the limits of this improvement, the Contractor will encounter water valve boxes and/or domestic meter vaults that are to be adjusted to the proposed grade.

This work shall be subject to the provisions of Section 602 of the State Specifications.

Basis of Payment. This work shall be paid for at the contract unit price each for Water Valve Boxes to be Adjusted and for Domestic Meter Vaults to be Adjusted, which price shall include all labor, equipment and materials to complete the work in accordance with the plans and this special provision

SPECIAL PROVISION
FOR
DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED

Description. This item shall consist of the adjustment of existing Domestic Water Service Boxes to match the proposed surface grade, or as otherwise directed by the Engineer. In order to make the necessary adjustments, the Contractor may have to provide either slide-type or screw-type extensions for the existing facility. It shall be the responsibility of the Contractor to ascertain the type of existing facility, and the necessary extension piece required to perform the adjustment. The installation of the extension pieces or the proper manipulation of existing slide or screw type devices will be the only adjustment allowed, and the use of physical force to raise or lower the existing Domestic Water Service Boxes will not be permitted. This work shall be done to the satisfaction of the Engineer.

Basis of Payment. This item shall be paid for at the contract unit price each for Domestic Water Service Boxes to be Adjusted, which price shall include all labor, equipment and material.

SPECIAL PROVISION
FOR
SANITARY MANHOLES

Description. This work shall consist of constructing sanitary manholes with frames and grates or lids in accordance with Section 602 of the Standard Specifications and as shown on the plans.

The manholes frame-chimney joint area and the entire chimney area shall be sealed with flexible, watertight seals or chimney seals. The cast iron cover shall be watertight and shall be labeled "Sanitary" with 2 inch raised letters. Inlet and outlet pipes shall be provided with rubber gasketed couplings conforming to ASTM C-923.

Basis of Payment This work will be paid for at the contract unit price each for Sanitary Manholes with the type and diameter specified, which price shall include all frames, grates, lids, sand cushion, steps and flat slab tops, and all excavation and backfilling, except excavation in rock.

SPECIAL PROVISION
FOR
WATERPROOFING OF EXISTING SANITARY MANHOLES

Description. This work shall consist of waterproofing the exterior top portion of existing sanitary manholes to prevent the infiltration of surface water into the sanitary system and shall conform to Section 602 of the Standard Specifications with the following additional requirements:

Materials and Construction. At existing sanitary manholes to be adjusted, and/or reconstructed, the contractor shall expose a maximum of 12 inches of the cone section and remove the frame and any adjusting rings.

The existing manhole frame and concrete adjusting rings shall be separated from the cone and each other. Care shall be taken to prevent damage to the concrete rings and frame while removing the mortar adhering to the rings and frame.

Once final grade is established, the concrete adjusting rings shall be reset in either a 3/8 inch thick bituminous mastic bed or a ¼ inch thick bed of redi-seal asphalt compound or an approved equal.

The frame shall be set on either a 3/8 inch thick bituminous plastic bed or two side by side courses of 1 inch rope butyl gasket material or an approved equal.

A 3/8 inch layer of bituminous mastic shall be applied to the outside of the concrete adjusting rings and/or frame making sure to completely cover the external surfaces with mastic. The mastic should extend 6 inch to 12 inch below the top of the cone section.

A sheet of polyvinyl chloride with a minimum thickness of 8 mils or E-Z wrap rubber or equivalent shall be set into the outside mastic material making sure the plastic sheet or wrap rubber is held securely to the frame and cone with polywrap tape before backfilling.

Basis of Payment. This work will be paid for at the contract unit price per each for Waterproofing Existing Sanitary Manholes to be Adjusted; Waterproofing Existing Sanitary Manholes to be Reconstructed; Waterproofing Sanitary Manholes to be Reconstructed, Special; Waterproofing Sanitary Frames and Lids to be Adjusted; or Waterproofing Sanitary Frames and Lids to be Adjusted, Special.

SPECIAL PROVISION
FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS

Description. This project will result in a disturbance of one or more acres of total land area and will require compliance with the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit.

The Cook County Department of Transportation and Highways is the permittee, and all Contractors and Subcontractors involved in any soil disturbing activities will be required to confirm that they understand and will comply with all requirements of the permit by signing a Contractors Certification Statement. The Contractor shall adhere to the plans and complete required documents throughout construction. Documents are attached as part of this Special Provision.

A Storm Water Pollution Prevention Plan (SWPPP) shall be designed by the permittee and included in the project plans to be cooperatively implemented and updated by the Resident Engineer and Contractor for this project using good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges. In addition, the plan shall describe and ensure the implementation of best management practices (BMPs) which will be used to reduce the pollutants in storm water discharges associated with this project and assure compliance with the terms and conditions of the Storm Water Permit. Such practices may include mulching, geotextiles, silt fences, sediment traps, storm drain inlet protection and several others mentioned in the permit. The installation of these devices may be subject to Section 404 of the Clean Water Act. The plan will be signed by the County Superintendent of Transportation and Highways and retained on-site.

A Sediment and Erosion Control Inspection Report will be completed once a week and after every ½ inch rainfall (5 inch snowfall event) by the Resident Engineer. All directions to the Contractor for required repairs/maintenance/installation of erosion and sediment control or any other necessary BMPs will be included in the report. The Contractor will sign the report to confirm his/her receipt of a copy.

If any required repairs/maintenance/installation of sediment and erosion control or any other BMPs are not completed by the Contractor or Subcontractors within the time specified by the Engineer (time will vary from 1/2 hour to 1 week based on the urgency of the situation and the nature of the deficiency. The Engineer will be the sole judge), the Resident Engineer shall complete and submit an Incidence of Non-compliance (ION) form to the Illinois Environmental Protection Agency.

Basis of Payment. Temporary erosion control items have been included in the Summary of Quantities. Additional items not included in the Summary of Quantities, but deemed necessary by the Resident Engineer to fulfill the requirements of the NPDES Permit and this Special Provision will be paid for according to Article 109.04 of the State Standard Specifications for Road and Bridge Construction.

Following is the list of documents that comprise the Special Provision for NPDES:

Permit Coverage Letter – Ilr40085 (1 Page)
General NPDES Permit Ilr40 (2 Pages)
General NPDES Permit Ilr10 (10 Pages)
Notice of Intent (3 pages) – *Do not send fee – send form only as notification to IEPA.*
Notice of Termination (2 pages) – *Send form to IEPA at end of construction.*
IEPA Incidence of Non-Compliance Form (1 Page)
Contractor Certification Statement (1 Page)
Erosion and Sediment Control Inspection Checklist (1 Page)
Erosion/Sediment Control Inspection Report (1 Page)
Storm Water Pollution Plan Signed by Superintendent (5 Pages)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. Box 19276, SPRINGFIELD, ILLINOIS 62794-9276, 217-782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601, 312-814-6026

217/782 -0610

ROD R. BLAGOJEVICH, GOVERNOR RENEE CIPRIANO, DIRECTOR

2/9/20

COOK COUNTY HIGHWAY DEPT
69 W WASHINGTON ST STE 2100
CHICAGO, IL. 60602

Re: Cook County Highway Dept - Municipal Separate Storm Sewer System NPDES Permit No. ILR400485 County: Cook
Notice of Coverage Under General Permit

Dear NPDES Permittee:

We have received your Notice of Intent and have determined that storm water discharges from your municipal separate storm sewer system are appropriately covered by the attached NPDES general permit issued by the Agency.

The permit as issued covers Notice of Intent requirements, storm water management programs, and monitoring, recordkeeping and reporting requirements. Attached is an Annual Inspection Form that you must complete and submit to the Agency by the first day of June for each year that this permit is in effect.

Failure to meet any portion of the permit could result in civil and/or criminal penalties. The Agency is ready and willing to assist you in interpreting any of the conditions of the permit as they relate to your municipal separate storm sewer system.

Your municipal storm sewer system was automatically covered by this permit 30 days after your Notice of Intent application pursuant to the General Storm Water Permit for MS4's, Part I. Coverage Under This Permit, D. 3. The Agency realizes that you may have implemented part of your program, however, we have reviewed your application for any deficiencies and applicability of the general permit versus an individual permit. The final determination is that the general permit is applicable to your system.

This letter shows your permit number below your name. Please reference this number in all future correspondence. Should you have any questions concerning the permit, please contact the Permit Section at (217) 782-0610.

Very truly yours,

Alan Keller

Alan Keller, P. E.
Manager, Permit Section
Division of Water Pollution Control

Enclosure

AK:MED:\MS4 Coverage Letter cc: Records Unit Des _Plaines

Rockrod Rd P022I North Main Street, Rockford, IL 61103 -(815) 987-7760 • DES PLAINES-9511 W. Harrison St., Des Plaines, IL 60016-(847) 294-4000 ELGIN- 595 South State, Elgin, IL 60123 - (847) 608-3131• PEORIA- 5415 N. University St., Peoria, IL 61614 - (309) 693-5463
BUREAU OF LAND - PEORIA- 7620 N. University St., Peoria, IL 61614 - (309) 693-5462 • CHAMPAIGN - 2125 South First Street, Champaign, IL 61820 - (217) 278-58C SPRINGFIELD- 4500S. Sixth Street Rd., Springfield, IL 62706 -(217) 786-6892 • COLLINSVILLE- 2009 Mall Street, Collinsville, IL 62234 - (618) 346-5120 MARION - 2309 W. Main St., Suite 116, Marion, IL 62959 - (618) 993-7200C

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand East
P.O. Box 19276
Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit
For
Discharges from Small Municipal Separate Storm Sewer Systems

Expiration Date: March 31, 2014

Issue Date: February 20, 2009

Effective Date: April 1, 2009

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act, the following discharges may be authorized by this permit in accordance with the conditions herein:

Discharges of only storm water from small municipal separate storm sewer systems, as defined and limited herein. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Receiving waters: Discharges may be authorized to any surface water of the State.

To receive authorization to discharge under this general permit, a facility operator must submit an application as described in the permit conditions to the Illinois Environmental Protection Agency. Authorization, if granted, will be by letter and include a copy of this permit.

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

ILR40.wpd

CONTENTS OF THIS GENERAL PERMIT

PART I. COVERAGE UNDER THIS PERMIT ..... Page 2
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PART VI. DEFINITIONS AND ACRONYMS ..... Page 10
ATTACHMENT H. STANDARD CONDITIONS ..... Page 12

PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area

This permit covers all areas of the State of Illinois.

B. Eligibility

1. This permit authorizes discharges of storm water from small municipal separate storm sewer systems (MS4s) as defined in 40 CFR 122.26(b)(16) as designated for permit authorization pursuant to 40 CFR 122.32.

2. This permit authorizes the following non-storm water discharges provided they have been determined not to be substantial contributors of pollutants to a particular small MS4 applying for coverage under this permit:

   * water line and fire hydrant flushing,
   * landscape irrigation water,
   * rising ground waters,
   * ground water infiltration,
   * pumped ground water,
   * discharges from potable water sources, (excluding wastewater discharges from water supply treatment plants)
   * foundation drains,
   * air conditioning condensate,
   * irrigation water, (except for wastewater irrigation),
   * springs,
   * water from crawl space pumps,
   * footing drains,
   * storm sewer cleaning water,
   * water from individual residential car washing,
   * routine external building washdown which does not use detergents,
   * flows from riparian habitats and wetlands,
   * dechlorinated pH neutral swimming pool discharges,
   * residual street wash water,
   * discharges or flows from fire fighting activities
   * dechlorinated water reservoir discharges, and
   * pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).

3. Any municipality covered by this general permit is also granted automatic coverage under Permit No. ILR10 for the discharge of storm water associated with construction site activities for municipal construction projects disturbing one acre or more. The permittee is granted automatic coverage 30 days after Agency receipt of a Notice of Intent to Discharge Storm Water from Construction Site Activities from the permittee. The Agency will provide public notification of the construction site activity and assign a unique permit number for each project during this period. The permittee shall comply with all the requirements of Permit ILR10 for all such construction projects.

C. Limitations on Coverage

The following discharges are not authorized by this permit:

General NPDES Permit No. ILR10

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
www.epa.state.il.us

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit
For
Storm Water Discharges From Construction Site Activities

Expiration Date: July 31, 2018

Issue Date: July 30, 2013

Effective Date: August 1, 2013

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter I), and the Clean Water Act, and the regulations thereunder the following discharges are authorized by this permit in accordance with the conditions and attachments herein.

Alan Keller

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

Part I. COVERAGE UNDER THIS PERMIT

A. **Permit Area.** The permit covers all areas of the State of Illinois with discharges to any waters of the State.

B. **Eligibility.**

1. This permit shall authorize all discharges of storm water associated with industrial activity from a construction site that will result in the disturbance of one or more acres total land area or a construction site less than one acre of total land that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb one or more acres total land area. This permit may authorize discharges from other construction site activities that have been designated by the Agency as having the potential to adversely affect the water quality of waters of the state. This permit also authorizes discharges from construction sites previously approved by the Agency under the previous version of ILR10 that are still occurring after the effective date of this permit, except for discharges identified under Part I.B.3 (Limitations on Coverage). Where discharges from construction sites were initially covered under the previous version of the ILR10, the Storm Water Pollution Prevention Plan must be updated/revised as necessary to ensure compliance with the provisions of this reissued ILR10 permit in accordance with Part II.A.2.

2. This permit may only authorize a storm water discharge associated with industrial activity from a construction site that is mixed with a storm water discharge from an industrial source other than construction, where:

   a. the industrial source other than construction is located on the same site as the construction activity;

   b. storm water discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and

   c. storm water discharges associated with industrial activity from the areas of the site where industrial activities other than construction are occurring (including storm water discharges from dedicated asphalt plants and dedicated concrete plants) are covered by a different NPDES general permit or an individual permit authorizing such discharges.

3. **Limitations on Coverage.** The following storm water discharges from construction sites are not authorized by this permit:

   a. storm water discharges associated with industrial activities that originate from the site after construction activities have been completed and the site has undergone final stabilization;

   b. discharges that are mixed with sources of non-storm water other than discharges identified in Part III.A (Prohibition on Non-Storm Water Discharges) of this permit and in compliance with paragraph IV.D.5 (Non-Storm Water Discharges) of this permit;

c. storm water discharges associated with industrial activity that are subject to an existing NPDES individual or general permit or which are issued a permit in accordance with Part VI.N (Requiring an Individual Permit or an Alternative General Permit) of this permit. Such discharges may be authorized under this permit after an existing permit expires provided the existing permit did not establish numeric limitations for such discharges;

d. storm water discharges from construction sites that the Agency has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard; and

e. storm water discharges that the Agency, at its discretion, determines are not appropriately authorized or controlled by this general permit.

f. storm water discharges to any receiving water specified under 35 Ill. Adm. Code 302.105(d) (6).

C. **Authorization.**

1. In order for storm water discharges from construction sites to be authorized to discharge under this general permit a discharger must submit a Notice of Intent (NOI) in accordance with the requirements of Part II below, using an NOI form provided by the Agency.

2. Where a new contractor is selected after the submittal of an NOI under Part II below, or where site ownership is transferred, a new Notice of Intent (NOI) must be submitted by the owner in accordance with Part II.

3. Unless notified by the Agency to the contrary, dischargers who submit an NOI in accordance with the requirements of this permit are authorized to discharge storm water from construction sites under the terms and conditions of this permit in 30 days after the date the NOI is received by the Agency.

4. The Agency may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information.

Part II. NOTICE OF INTENT REQUIREMENTS

A. **Deadlines for Notification.**

1. To receive authorization under this general permit, a discharger must submit a completed Notice of Intent (NOI) in accordance with Part VI.G (Signatory Requirements) and the requirements of this Part in sufficient time to allow a 30 day review period after the receipt of the NOI by the Agency and prior to the start of construction. The completed NOI may be submitted electronically to the following email address: epa.constilr10swppp@illinois.gov

2. Discharges that were covered by the previous version of ILR10 are automatically covered by this permit. Where discharges associated with construction activities were initially covered under the previous version of ILR10 and are continuing, the Storm Water Pollution Prevention Plan must be updated/revised within 12 months of the effective date of this reissued permit, as necessary to ensure compliance with the provisions of the reissued ILR10. Updating of the SWPPP is not required if construction activities are completed and a Notice of Termination is submitted within 12 months of the effective date of this permit.

3. A discharger may submit an NOI in accordance with the requirements of this Part after the start of construction. In such instances, the Agency may bring an enforcement action for any discharges of storm water associated with industrial activity from a construction site that have occurred on or after the start of construction.

B. **Failure to Notify.** Dischargers who fail to notify the Agency of their intent to be covered, and discharge storm water associated with construction site activity to Waters of the State without an NPDES permit are in violation of the Environmental Protection Act and Clean Water Act.

C. **Contents of Notice of Intent.** The Notice of Intent shall be signed in accordance with Part VI.G (Signatory Requirements) of this permit by all of the entities identified in paragraph 2 below and shall include the following information:

1. The mailing address, and location of the construction site for which the notification is submitted. Where a mailing address for the site is not available, the location can be described in terms of the latitude and longitude of the approximate center of the facility to the nearest 15 seconds, or the nearest quarter section (if the section, township and range is provided) that the construction site is located in;

2. The owner's name, address, telephone number, and status as Federal, State, private, public or other entity;

3. The name, address and telephone number of the general contractor(s) that have been identified at the time of the NOI submittal;

4. The name of the receiving water(s), or if the discharge is through a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the ultimate receiving water(s);

5. The number of any NPDES permits for any discharge (including non-storm water discharges) from the site that is currently authorized by an NPDES permit;

6. A description of the project, detailing the complete scope of the project, estimated timetable for major activities and an estimate of the number of acres of the site on which soil will be disturbed;

7. For projects that have complied with State law on historic preservation and endangered species prior to submittal of the NOI, through coordination with the Illinois Historic Preservation Agency and the Illinois Department of Natural Resources or through fulfillment of the terms of interagency agreements with those agencies, the NOI shall indicate that such compliance has occurred.

8. An electronic copy of the storm water pollution prevention plan that has been prepared for the site in accordance with Part IV of this permit. The electronic copy shall be submitted to the Agency at the following email address: epa.constilr10swppp@illinois.gov

9. Revised notice of intents shall be submitted for any substantial modifications to the project such as: address changes, new contractors, area coverage, additional discharges to waters of the state, or other substantial modifications.

D. **Where to Submit.**

Construction activities which discharge storm water that requires a NPDES permit must use an NOI form provided by the Agency. The applicable fee shall also be submitted. NOIs must be signed in accordance with Part VI.G (Signatory Requirements) of this permit. The NOI form may be submitted to the Agency in any of the following methods:

1. File electronically with digital signature at the following website address: http://dataservices.epa.illinois.gov/SWConstructionPermit/bowLogin.aspx

   Registration specific to the permittee is required in order to file electronically.

2. Submit complete NOI and SWPPP electronically to the following email address: epa.constilr10swppp@illinois.gov. Submit the NOI with original signature and fee by certified mail to the Agency at the following address:

   Illinois Environmental Protection Agency
   Division of Water Pollution Control, Mail Code #15
   Attention: Permit Section
   1021 North Grand Avenue East
   Post Office Box 19276
   Springfield, Illinois 62794-9276

E. **Additional Notification.** Construction activities that are operating under approved local sediment and erosion plans, land disturbance permits, grading plans, or storm water management plans, in addition to filing copies of the Notice of Intent in accordance with Part D above, shall also submit signed copies of the Notice of Intent to the local agency approving such plans in accordance with the deadlines in Part A above. See Part IV.D.2.d (Approved State or Local Plans). A copy of the NOI shall be sent to the entity holding an active General NPDES Permit No. ILR40 if the permittee is located in an area covered by an active ILR40 permit.

F. **Notice of Termination.** Where a site has completed final stabilization and all storm water discharges from construction activities that are authorized by this permit are eliminated, the permittee must submit a completed Notice of Termination that is signed in accordance with Part VI.G (Signatory Requirements) of this permit.

1. The Notice of Termination shall include the following information:

   a. The mailing address, and location of the construction site for which the notification is submitted. Where a mailing address for the site is not available, the location can be described in terms of the latitude and longitude of the approximate center of the facility to the nearest 15 seconds, or the nearest quarter section (if the section, township and range is provided) that the construction site is located in;

   b. The owner's name, address, telephone number, and status as Federal, State, private, public or other entity;

   c. The name, address and telephone number of the general contractor(s);

   d. The date when construction was completed and the site was stabilized; and

   e. The following certification signed in accordance with Part VI.G (Signatory Requirements) of this permit:

      "I certify under penalty of law that all storm water discharges associated with construction site activity from the identified facility that are authorized by NPDES general permit ILR10 have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with construction site activity by the general permit, and that discharging pollutants in storm water associated with construction site activity to Waters of the State is unlawful under the Environmental Protection Act and Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act."

      For the purposes of this certification, elimination of storm water discharges associated with industrial activity means that all disturbed soils at the identified facility have been finally stabilized and temporary erosion and sediment control measures have been removed or will be removed at an appropriate time, or that all storm water discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have otherwise been eliminated.

2. All Notices of Termination are to be sent to the Agency to the mailing address in Part II.D.1, using the form provided by the Agency, or electronically if the permittee submitted a Notice of Intent by electronic means.

Part III. SPECIAL CONDITIONS, MANAGEMENT PRACTICES, AND OTHER NON-NUMERIC LIMITATIONS

A. **Prohibition on Non-Storm Water Discharges.**

1. Except as provided in Part I paragraph B.2 and paragraphs 2, 3 or 4 below, all discharges covered by this permit shall be comprised entirely of storm water.

2. a. Except as provided in paragraph b below, discharges of materials other than storm water must be in compliance with a NPDES permit (other than this permit) issued for the discharge.

b. The following non-storm water discharges may be authorized by this permit provided the non-storm water component of the discharges is in compliance with Part IV.D.5 (Non-Storm Water Discharges): discharges from fire fighting activities; fire hydrant flushings; waters used to wash vehicles where detergents are not used; waters used to control dust; potable water sources including uncontaminated waterline flushings; landscape irrigation drainages; routine external building washdown which does not use detergents; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; uncontaminated air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

3. The following non-storm water discharges are prohibited by this permit: concrete and wastewater from washout of concrete (unless managed by an appropriate control), drywall compound, wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps, solvents, or detergents, toxic or hazardous substances from a spill or other release, or any other pollutant that could cause or tend to cause water pollution.

4. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are allowable if managed by appropriate controls.

B. **Discharges into Receiving Waters With an Approved Total Maximum Daily Load (TMDL):**

Discharges to waters for which there is a TMDL allocation for sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation) are not eligible for coverage under this permit unless the owner/operator develops and certifies a SWPPP that is consistent with wasteload allocations in the approved TMDL. To be eligible for coverage under this general permit, operators must incorporate into their SWPPP any conditions and/or Best Management Practices applicable to their discharges necessary for consistency with the TMDL within any timeframes established in the TMDL. If a specific numeric waste load allocation has been established that would apply to the project's discharges, the operator must incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation.

Please refer to the Agency website at: http://www.epa.state.il.us/water/tmdl/report-status.html

C. Discharges covered by this permit, alone or in combination with other sources, shall not cause or contribute to a violation of any applicable water quality standard.

Part IV. STORM WATER POLLUTION PREVENTION PLANS

A storm water pollution prevention plan shall be developed for each construction site covered by this permit. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction site activity from the facility. In addition, the plan shall describe and ensure the implementation of best management practices which will be used to reduce the pollutants in storm water discharges associated with construction site activity and to assure compliance with the terms and conditions of this permit. The permittee must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

A. **Deadlines for Plan Preparation and Compliance.**

The plan shall:

1. Be completed prior to the start of the construction activities to be covered under this permit and submitted electronically to the Agency at the time the Notice of Intent is submitted; and

2. Provide for compliance with the terms and schedules of the plan beginning with the initiation of construction activities.

B. **Signature, Plan Review and Notification.**

1. The plan shall be signed in accordance with Part VI.G (Signatory Requirements), and be retained at the construction site which generates the storm water discharge in accordance with Part VI.E (Duty to Provide Information) of this permit.

2. Prior to commencement of construction, the permittee shall provide the plan to the Agency.

3. The permittee shall make plans available upon request from this Agency or a local agency approving sediment and erosion plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system. A list of permitted municipal separate storm sewer systems is available at: http://www.epa.state.il.us/water/permits/storm-water/ms4-status-report.pdf

4. The Agency may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Such notification shall identify those provisions of the permit which are not being met by the plan, and identify which provisions of the plan require modifications in order to meet the minimum requirements of this part. Within 7 days from receipt of notification from the Agency, the permittee shall make the required changes to the plan and shall submit to the Agency a written certification that the requested changes have been made. Failure to comply shall terminate authorization under this permit.

5. A copy of the letter of notification of coverage along with the General NPDES Permit for Storm Water Discharges from Construction Site Activities or other indication that storm water discharges from the site are covered under an NPDES permit shall be posted at the site in a prominent place for public viewing (such as alongside a building permit).

6. All storm water pollution prevention plans and all completed inspection forms/reports required under this permit are considered reports that shall be available to the public at any reasonable time upon request. However, the permittee may claim any portion of a storm water pollution prevention plan as confidential in accordance with 40 CFR Part 2.

C. **Keeping Plans Current.** The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to Waters of the State and which has not otherwise been addressed in the plan or if the

storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under paragraph D.2 below, or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with construction site activity. In addition, the plan shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the storm water pollution prevention plan. Amendments to the plan may be reviewed by the Agency in the same manner as Part IV.B above. Any revisions of the documents for the storm water pollution prevention plan shall be kept on site at all times.

D. **Contents of Plan.** The storm water pollution prevention plan shall include the following items:

1. **Site Description.** Each plan shall provide a description of the following:

   a. A description of the nature of the construction activity or demolition work;

   b. A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils, on-site or off-site storage of materials);

   c. An estimate of the total area of the site and the total area of the site that is expected to be disturbed by clearing, grubbing, excavation, grading, on-site or off-site stockpiling of soils and storage of materials, or other activities;

   d. An estimate of the runoff coefficient of the site after construction activities are completed and existing data describing the soil or the quality of any discharge from the site;

   e. A site map indicating drainage patterns and approximate slopes anticipated before and after major grading activities, locations where vehicles enter or exit the site and controls to prevent offsite sediment tracking, areas of soil disturbance, the location of major structural and nonstructural controls identified in the plan, the location of areas where stabilization practices are expected to occur, locations of on-site or off-site soil stockpiling or material storage, surface waters (including wetlands), and locations where storm water is discharged to a surface water; and

   f. The name of the receiving water(s) and the ultimate receiving water(s), and areal extent of wetland acreage at the site.

2. **Controls.** Each plan shall include a description of appropriate controls that will be implemented at the construction site and any off-site stockpile or storage area, The Illinois Urban Manual www.aiswcd.org/IUM or other similar documents shall be used for developing the appropriate management practices, controls or revisions of the plan. The plan will clearly describe for each major activity identified in paragraph D.1 above, appropriate controls and the timing during the construction process that the controls will be implemented. For example, perimeter controls for one portion of the site will be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls will be actively maintained and/or repaired until final stabilization of those portions of the site upward of the perimeter control. Temporary perimeter controls will be removed after final stabilization. The description of controls shall address as appropriate the following minimum components:

   a. **Erosion and Sediment Controls.** The permittee shall design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed and maintained to:

      (i) Control storm water volume and velocity within the site to minimize soil erosion;
      (ii) Control storm water discharges, including both peak flowrates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
      (iii) Minimize the amount of soil exposed during construction activity;
      (iv) Minimize the disturbance of steep slopes;
      (v) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
      (vi) Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible; and
      (vii) Minimize soil compaction and, unless infeasible, preserve topsoil.

   b. **Stabilization Practices.** The storm water pollution prevention plan shall include a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where practicable and that disturbed portions of the site are stabilized. Stabilization practices may include: temporarily seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, staged or staggered development, and other appropriate measures. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated, shall be included in the plan. Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization of disturbed areas must be initiated within 1 working day of permanent or temporary cessation of earth disturbing activities and shall be completed as soon as possible but not later than 14 days from the initiation of stabilization work in an area. Exceptions to these time frames are specified as provided in paragraphs (i) and (ii) below:

      (i) Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.
      (ii) On areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method can be used. Temporary stabilization techniques and materials shall be described in the SWPPP.

   c. **Structural Practices.** A description of structural practices utilized to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Structural practices should be placed on upland soils to the degree practicable. The installation of these devices may be subject to Section 404 of the CWA.

(i) The following design requirements apply to sediment basins if such structural practices will be installed to reduce sediment concentrations in storm water discharges:

a. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharge.
b. Prevent erosion of the sediment basin using stabilization controls (e.g., erosion control blankets), at the inlet and outlet using erosion controls and velocity dissipation devices:
c. Sediment basins shall be designed to facilitate maintenance, including sediment removal from the basins, as necessary.

d. **Use of Treatment Chemicals.** Identify the use of all polymer flocculants or treatment chemicals at the site. Dosage of treatment chemicals shall be identified along with any information from any Material Safety Data Sheet. Describe the location of all storage area for chemicals. Include any information from the manufacturer's specifications. Treatment chemicals must be stored in areas where they will not be exposed to precipitation. The SWPPP must describe procedures for use of treatment chemicals and staff responsible for use/application of treatment chemicals must be trained on the established procedures.

e. **Best Management Practices for Impaired Waters.** For any site which discharges directly to an impaired water identified on the Agency's website for 303(d) listing for suspended solids, turbidity, or siltation the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event. If required by federal regulations or the Illinois Urban Manual, the storm water pollution prevention plan shall adhere to a more restrictive design criteria. Please refer to the Agency's website at: (http://www.epa.state.il.us/water/tmdl/303d-list.html)

f. **Pollution Prevention.** The permittee shall design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
(ii) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water; and
(iii) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

g. **Other Controls.**

(i) Waste Disposal. No solid materials, including building materials, shall be discharged to Waters of the State, except as authorized by a Section 404 permit.
(ii) The plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.
(iii) For construction sites that receive concrete or asphalt from off-site locations, the plan must identify and include appropriate controls and measures to reduce or eliminate discharges from these activities.
(iv) The plan shall include spill response procedures and provisions for reporting if there are releases in excess of reportable quantities.

h. **Best Management Practices for Post-Construction Storm Water Management.** Describe the measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the CWA. This permit only addresses the installation of storm water management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization. Permittees are responsible for only the installation and maintenance of storm water management measures prior to final stabilization of the site, and are not responsible for maintenance after storm water discharges associated with industrial activity have been eliminated from the site.

(i) The storm water pollution prevention plan and design and construction plans shall explicitly consider post-construction storm water management. Such practices may include: storm water detention structures (including wet ponds); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The Permittee must plan for and put in place storm water BMPs to retain the greatest amount of post-development storm water runoff practicable given the site and project constraints by installing one or more of the Best Management Practices (BMPs) as described in the Illinois Urban Manual.

The storm water pollution prevention plan shall include an explanation of the technical basis used to select the practices to control pollution where post-construction flows will exceed predevelopment levels.

(ii) Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g. maintenance of hydrologic conditions, such as the hydroperiod and hydrodynamics present prior to the initiation of construction activities).

(iii) Unless otherwise specified in the Illinois Urban Manual (2012), the storm water pollution prevention plan shall be designed for a storm event equal to or greater than a 25-year 24-hour rainfall event.

i. **Approved State or Local Plans.**

(i) The management practices, controls and other provisions contained in the storm water pollution prevention plan must be at least as protective as the requirements contained in the Illinois Urban Manual, 2012. Construction activities which discharge storm water must include in their storm water pollution prevention plan procedures and requirements specified in applicable sediment and erosion control plans or storm water management plans approved by local officials. Requirements specified in sediment and erosion control plans or site permits or storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of an NOI to be authorized to discharge under this permit, incorporated by reference and are enforceable under this permit. The plans shall include all requirements of this permit and include more stringent standards required by any local

approval. This provision does not apply to provisions of master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for the construction site.

(ii) Dischargers seeking alternative permit requirements are not authorized by this permit and shall submit an individual permit application in accordance with 40 CFR 122.26 at the address indicated in Part II.D (Where to Submit) of this permit, along with a description of why requirements in approved local plans or permits should not be applicable as a condition of an NPDES permit.

3. **Maintenance.**

a. The plan shall include a description of procedures to maintain in good and effective operating conditions, all erosion and sediment control measures and other Best Management Practices, including vegetation and other protective measures identified in the Storm Water Pollution Prevention Plan.

b. Where a basin has been installed to control sediment during construction activities, the Permittees shall keep the basin(s) in effective operating condition and remove accumulated sediment as necessary.

4. **Inspections.** Qualified personnel (provided by the permittee) shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm or by the end of the following business or work day that is 0.5 inches or greater. Qualified personnel means a person knowledgeable in the principles and practices of erosion and sediment controls measures, such as a licensed Professional Engineer (P.E.), a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Erosion Sediment and Storm Water Inspector (CESSWI) or other knowledgeable person who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activities.

a. Inspections may be reduced to once per month when construction activities have ceased due to frozen conditions. Weekly inspections will recommence when construction activities are conducted, or if there is 0.5" or greater rain event, or a discharge due to snowmelt occurs.

b. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

c. Based on the results of the inspection, the description of potential pollutant sources identified in the storm water pollution prevention plan in accordance with Part IV.D.1 (Site Description) of this permit and the pollution prevention control measures identified in the plan in accordance with Part IV.D.2 (Controls) of this permit shall be revised as appropriate as soon as practicable after such inspection to minimize the potential for such discharges. Such modifications shall provide for timely implementation of any changes to the plan and pollution prevention control measures within 7 calendar days following the inspection.

d. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph b above shall be made and retained as part of the storm water pollution prevention plan for at least three years from the date that the permit coverage expires or is terminated. All inspection reports shall be retained at the construction site. The report shall be signed in accordance with Part VI.G (Signatory Requirements) of this permit.

e. The permittee shall notify the appropriate Agency Field Operations Section office by email at: epa.swnoncomp@illinois.gov, telephone or fax within 24 hours of any incidence of noncompliance for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit. The permittee shall complete and submit within 5 days an "Incidence of Noncompliance" (ION) report for any violation of the storm water pollution prevention plan observed during any inspection conducted, or for violations of any condition of this permit. Submission shall be on forms provided by the Agency and include specific information on the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environmental impact which may have resulted from the noncompliance. Corrective actions must be undertaken immediately to address the identified non-compliance issue(s).

f. All reports of noncompliance shall be signed by a responsible authority as defined in Part VI.G (Signatory Requirements).

g. After the initial contact has been made with the appropriate Agency Field Operations Section Office, all reports of noncompliance shall be mailed to the Agency at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

5. **Non-Storm Water Discharges.** Except for flows from fire fighting activities, sources of non-storm water listed in Part III.A.2 of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and insure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

E. **Additional requirements for storm water discharges from industrial activities other than construction, including dedicated asphalt plants, and dedicated concrete plants.** This permit may only authorize any storm water discharge associated with industrial activity from a construction site that is mixed with a storm water discharge from an industrial source other than construction, where:

1. The industrial source other than construction is located on the same site as the construction activity;

2. Storm water discharges associated with industrial activity from the areas of the site where construction activities are occurring are in compliance with the terms of this permit; and

3. Storm water discharges associated with industrial activity from the areas of the site where industrial activity other than construction are occurring (including storm water discharges from dedicated asphalt plants [other than asphalt emulsion facilities] and dedicated concrete plants) are in compliance with the terms, including applicable NOI or application requirements, of a different NPDES general permit or individual permit authorizing such discharges.

F. **Contractors.**

1. The storm water pollution prevention plan must clearly identify for each measure identified in the plan, the contractor(s) or subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the plan must sign a copy of the certification statement in paragraph 2 below in accordance with Part VI.G (Signatory Requirements) of this permit. All certifications must be included in the storm water pollution prevention plan except for owners that are acting as contractors.

2. **Certification Statement.** All contractors and subcontractors identified in a storm water pollution prevention plan in accordance with paragraph 1 above shall sign a copy of the following certification statement before conducting any professional service at the site identified in the storm water pollution prevention plan:

> "I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification."

The certification must include the name and title of the person providing the signature in accordance with Part VI.G of this permit: the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Part V. RETENTION OF RECORDS

A. The permittee shall retain copies of storm water pollution prevention plans and all reports and notices required by this permit, records of all data used to complete the Notice of Intent to be covered by this permit and the Agency Notice of Permit Coverage letter for a period of at least three years from the date that the permit coverage expires or is terminated. This period may be extended by request of the Agency at any time.

B. The permittee shall retain a copy of the storm water pollution prevention plan and any revisions to said plan required by this permit at the construction site from the date of project initiation to the date of final stabilization.

Part VI. STANDARD PERMIT CONDITIONS

A. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Illinois Environmental Protection Act and the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Failure to obtain coverage under this permit or an individual permit for storm water releases associated with construction activities is a violation of the Illinois Environmental Protection Act and the CWA.

B. **Continuation of the Expired General Permit.** This permit expires five years from the date of issuance. An expired general permit continues in force and effect until a new general permit or an individual permit is issued. Only those construction activities authorized to discharge under the expiring general permit are covered by the continued permit.

C. **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. **Duty to Provide Information.** The permittee shall furnish within a reasonable time to the Agency or local agency approving sediment and erosion control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system, any information which is requested to determine compliance with this permit. Upon request, the permittee shall also furnish to the Agency or local agency approving sediment and erosion control plans, grading plans, or storm water management plans; or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system, copies of all records required to be kept by this permit.

F. **Other Information.** When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Agency, he or she shall promptly submit such facts or information.

G. **Signatory Requirements.** All Notices of Intent, storm water pollution prevention plans, reports, certifications or information either submitted to the Agency or the operator of a large or medium municipal separate storm sewer system, or that this permit requires be maintained by the permittee, shall be signed.

1. All Notices of Intent shall be signed as follows:

a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) any person authorized to sign documents that has been assigned or delegated said authority in accordance with corporate procedures;

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer

having responsibility for the overall operations of a principal geographic unit of the agency.

2. All reports required by the permit and other information requested by the Agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Agency.

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

   c. **Changes to Authorization.** If an authorization under Part I.C (Authorization) is no longer accurate because a different individual or position has responsibility for the overall operation of the construction site, a new authorization satisfying the requirements of Part I.C must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.

   d. **Certification.** Any person signing documents under this Part shall make the following certification:

      "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. **Penalties for Falsification of Reports.** Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. Section 44(j)(4) and (5) of the Environmental Protection Act provides that any person who knowingly makes any false statement, representation, or certification in an application form, or form pertaining to a NPDES permit commits a Class A misdemeanor, and in addition to any other penalties provided by law is subject to a fine not to exceed $10,000 for each day of violation.

I. **Penalties for Falsification of Monitoring Systems.** The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the CWA. The Environmental Protection Act provides that any person who knowingly renders inaccurate any monitoring device or record required in connection with any NPDES permit or with any discharge which is subject to the provisions of subsection (f) of Section 12 of the Act commits a Class A misdemeanor, and in addition to any other penalties provided by law is subject to a fine not to exceed $10,000 for each day of violation.

J. **Oil and Hazardous Substance Liability.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the CWA.

K. **Property Rights.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

L. **Severability.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

M. **Transfers.** This permit is not transferable to any person except after notice to the Agency. The Agency may require the discharger to apply for and obtain an individual NPDES permit as stated in Part I.C (Authorization).

N. **Requiring an Individual Permit or an Alternative General Permit.**

1. The Agency may require any person authorized by this permit to apply for and/or obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the Agency to take action under this paragraph. Where the Agency requires a discharger authorized to discharge under this permit to apply for an individual NPDES permit, the Agency shall notify the discharger in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of the individual NPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Applications shall be submitted to the Agency indicated in Part II.D (Where to Submit) of this permit. The Agency may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual NPDES permit application as required by the Agency under this paragraph, then the applicability of this permit to the individual NPDES permittee is automatically terminated at the end of the day specified by the Agency for application submittal. The Agency may require an individual NPDES permit based on:

   a. information received which indicates the receiving water may be of particular biological significance pursuant to 35 Ill. Adm. Code 302.105(d)(6);

   b. whether the receiving waters are impaired waters for suspended solids, turbidity or siltation as identified by the Agency's 303(d) listing;

   c. size of construction site, proximity of site to the receiving stream, etc.

   The Agency may also require monitoring of any storm water discharge from any site to determine whether an individual permit is required.

2. Any discharger authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii), with reasons supporting the request, to the Agency at the address indicated in Part II.D (Where to Submit) of this permit. The request may be granted by issuance of any individual permit or an alternative general permit if the reasons cited by the permittee are adequate to support the request.

3. When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the discharger is authorized to discharge under an

alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to a discharger otherwise subject to this permit or the discharger is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee remains in effect, unless otherwise specified by the Agency.

O. **State/Environmental Laws.** No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

P. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all construction activities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

Q. **Inspection and Entry.** The permittee shall allow the IEPA, or an authorized representative upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated construction activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

R. **Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

S. **Bypasses and Upsets.** The provisions of 40 CFR Section 122.41(m) & (n) are applicable and are hereby incorporated by reference.

Part VII. REOPENER CLAUSE

A. If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with industrial activity covered by this permit, the discharger may be required to obtain an individual permit or an alternative general permit in accordance with Part I.C (Authorization) of this permit or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted according to provisions of 35 Ill. Adm. Code, Subtitle C, Chapter I and the provisions of 40 CFR 122.62, 122.63, 122.64 and 124.5 and any other applicable public participation procedures.

C. The Agency will reopen and modify this permit under the following circumstances:

1. the U.S. EPA amends its regulations concerning public participation;

2. a court of competent jurisdiction binding in the State of Illinois or the 7th Circuit Court of Appeals issues an order necessitating a modification of public participation for general permits; or

3. to incorporate federally required modifications to the substantive requirements of this permit.

Part VIII. DEFINITIONS

"Agency" means the Illinois Environmental Protection Agency.

"Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

"Commencement of Construction or Demolition Activities" The initial disturbance of soils associated with clearing, grading, or excavating activities or other construction or demolition activities.

"Construction Activities" Earth disturbing activities, such as clearing, grading and excavation of land. For purposes of this permit, construction activities also means construction site, construction site activities, or site. Construction activities also include any demolition activities at a site.

"CWA" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.).

"Dedicated portable asphalt plant" A portable asphalt plant that is located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR 443.

"Dedicated portable concrete plant" A portable concrete plant that is located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

"Dedicated sand or gravel operation" An operation that produces sand and/or gravel for a single construction project.

"Director" means the Director of the Illinois Environmental Protection Agency or an authorized representative.

"Final Stabilization" means that all soil disturbing activities at the site have been completed, and either of the two following conditions are met:

(i) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or

(ii) Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

For individual lots in residential construction, final stabilization means that either:

(i) The homebuilder has completed final stabilization as specified above, or

(ii) The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

"Large and Medium municipal separate storm sewer system" means all municipal separate storm sewers that are either:

(i) Located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and G of 40 CFR Part 122); or

(ii) Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (these counties are listed in Appendices H and I of 40 CFR Part 122); or

(iii) Owned or operated by a municipality other than those described in paragraph (i) or (ii) and that are designated by the Director as part of the large or medium municipal separate storm sewer system.

"NOI" means notice of intent to be covered by this permit (see Part II of this permit.)

"Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharges. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in subparagraphs (i) through (x) of this subsection, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in subparagraph (xi), the term includes only storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally or municipally owned or operated that meet the description of the facilities listed in this paragraph (i)- (xi)) include those facilities designated under 40 CFR 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28, 29, 311, 32, 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(i)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but

limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42, 44, and 45 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under subparagraphs (i)-(vii) or (ix)-(xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

(x) Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than one acre of total land area which are not part of a larger common plan of development or sale unless otherwise designated by the Agency pursuant to Part I.B.1.

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (i)-(x)).

"Waters" mean all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon the State of Illinois, except that sewers and treatment works are not included except as specially mentioned; provided, that nothing herein contained shall authorize the use of natural or otherwise protected waters as sewers or treatment works except that in-stream aeration under Agency permit is allowable.

"Work day" for the purpose of this permit, a work day is any calendar day on which construction activities will take place.

ILR10TMLPMTFINAL_7/29//2013

The following modifications have been made to the final permit from the previously issued General NPDES Permit ILR10:

1. I.B.1: A requirement that existing permittees may have to update/revise their Storm Water Pollution Prevention Plan (SWPPP). See also Section II.A.2 below

2. II.A.2: Provides that permittees must upgrade/revise their SWPPP within 12 months of the effective date of this permit. Projects which will be terminated within the next 12 months are not required to update/revise their SWPPP.

3. II.C.7: The requirement for consultation with the Illinois Historic Preservation Agency and the Illinois Department of Natural Resources was moved from Section I.C.3 to Section II.C.7.

4. II.C.9: Revised Notices of Intent for substantial modifications.

5. II.D: Where to submit Notices of Intent.

6. II.E: NOI shall be copied to local active MS4 permit holders.

7. II.F.1.d: Date of completion and stabilization now included in Notice of Termination (NOT).

8. II.F.2: Provides for electronic submission of NOT.

9. III.A.3: Prohibition of various non-storm water discharges in accordance with 40 CFR 450.

10. III.A.4: Allowance for groundwater dewatering in accordance with 40 CFR 450.

11. IV.B.5: Copy of Approval Letter must be posted at site.

12. IV.D.1.e: Inclusion of information concerning off-site stockpiling of soils or other materials in the site description.

13. IV.D.2.a: Delineation of erosion and sediment controls now specified in accordance with 40 CFR 450.

14. IV.D.2.b: Requirements for initiation of stabilization activities in accordance with 40 CFR 450.

15. IV.D.2.c: Design requirements for sediment basins added to permit.

16. IV.D.2.f: Pollution prevention measures now included in permit in accordance with 40 CFR 450.

17. IV.D.2.g: Provisions for control of other wastes now included in permit.

18. IV.D.2.h: Requirement to explicitly consider post-construction storm water management in the SWPPP.

19. IV.D.3.b. Requirement to keep sediment basins in operating condition.

20. IV.D.4.a: Clarified inspection requirements after construction has temporarily ceased or under frozen conditions.

21. IV.D.4.e: Specified that corrective actions must be undertaken immediately following an incident of non-compliance in accordance with 40 CFR 450.

22. VI.S: Bypass and Upsets provisions were added to the Standard Permit Conditions.

23. VIII: Definition of construction activities was added to permit.

24. VIII: Definition of work day was added to the permit.

25. General: References to the Illinois Environmental Protection Agency's Urban Manual were changed to Illinois Urban Manual (2012).

26. General: The word "facilities" in previous permit was changed to "construction activities" in the draft permit.

27. General: Various edits.

Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control
Notice of Intent (NOI) for General Permit
to Discharge Storm Water Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

For Office Use Only

Permit No. ILR10 _____

OWNER INFORMATION

Company/Owner Name: _____

Mailing Address: _____ Phone: _____

City: _____ State: ___ Zip: _____ Fax: _____

Contact Person: _____ E-mail: _____

Owner Type (select one) _____

MS4 Community: ☐ Yes ☐ No

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____ Phone: _____

City: _____ State: ___ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Select One: ☐ New ☐ Change of information for: ILR10 _____

Project Name: _____ County: _____

Street Address: _____ City: _____ IL Zip: _____

Latitude: ___ ___ ___ Longitude: ___ ___ ___ ___ ___ ___

(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

Approximate Construction Start Date _____ Approximate Construction End Date _____

Total size of construction site in acres: _____

If less than 1 acre, is the site part of a larger common plan of development?

☐ Yes ☐ No

Fee Schedule for Construction Sites:
Less than 5 acres - $250
5 or more acres - $750

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Has the SWPPP been submitted to the Agency? ☐ Yes ☐ No

(Submit SWPPP electronically to: epa.constilr10swppp@illinois.gov)

Location of SWPPP for viewing: Address: _____ City: _____

SWPPP contact information: Inspector qualifications:

Contact Name: _____

Phone: _____ Fax: _____ E-mail: _____

Project inspector, if different from above Inspector qualifications:

Inspector's Name: _____

Phone: _____ Fax: _____ E-mail: _____

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2104 WPC 623
Rev 5/10

TYPE OF CONSTRUCTION (select one)

Construction Type _____

SIC Code: _____

Type a detailed description of the project:

_____

_____

_____

_____

_____

_____

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

Has the project been submitted to the following state agencies to satisfy applicable requirements for compliance with Illinois law on:

Historic Preservation Agency ☐ Yes ☐ No

Endangered Species ☐ Yes ☐ No

RECEIVING WATER INFORMATION

Does your storm water discharge directly to: ☐ Waters of the State or ☐ Storm Sewer

Owner of storm sewer system: _____

Name of closest receiving water body to which you discharge: _____

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control
Attn: Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

_____ _____

Owner Signature: Date:

_____ _____

Printed Name: Title:

INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the upper right hand corner of the first page.

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

Reports must be typed or printed legibly and signed.

Any facility that is not presently covered by the General NPDES Permit for Storm Water Discharges From Construction Site Activities is considered a new facility.

If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line, changes of information or permit renewal notifications do not require a fee.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format
Section	12	1 or 2 numerical digits
Township	12N	1 or 2 numerical digits followed by "N" or "S"
Range	12W	1 or 2 numerical digits followed by "E" or "W"

For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as "Unnamed Tributary to Sugar Creek to Sangamon River."

Submission of initial fee and an electronic submission of Storm Water Pollution Prevention Plan (SWPPP) for Initial Permit prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA at the above address.

Construction sites with less than 5 acres of land disturbance - fee is $250.

Construction sites with 5 or more acres of land disturbance - fee is $750.

SWPPP should be submitted electronically to: epa.constilr10swppp@illinois.gov When submitting electronically, use Project Name and City as indicated on NOI form.

Illinois Environmental Protection Agency

Bureau of Water • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control
NOTICE OF TERMINATION (NOT)
of Coverage under the General Permit for Storm Water Discharges Associated with Construction Site Activities

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Permit Section at the above address.

OWNER INFORMATION

Permit No. ILR10 _____

Owner Name: _____

Owner Type (select one) _____

Mailing Address: _____ Phone: _____

City: _____ State: ___ Zip: _____ Fax: _____

Contact Person: _____ E-mail: _____

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____ Phone: _____

City: _____ State: ___ Zip: _____ Fax: _____

CONSTRUCTION SITE INFORMATION

Facility Name: _____

Street Address: _____

City: _____ IL Zip: _____ County: _____

NPDES Storm Water General Permit Number: ILR10 _____

Latitude: _____ _____ _____ Longitude: _____ _____ _____ _____ _____ _____

(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

DATE PROJECT HAS BEEN COMPLETED AND STABILIZED: _____

NOTE: Coverage under this permit cannot be terminated without the completion date.

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized or that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity by the general permit, and that discharging pollutants in storm water associated with industrial activity to Waters of the State is unlawful under the Environmental Protection Act and the Clean Water Act where the discharge is not authorized by an NPDES Permit.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

_____ Owner Signature: _____ Date:

Mail completed form to: Illinois Environmental Protection Agency
Division of Water Pollution Control, Attn: Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

(Do not submit additional documentation unless requested)

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

GUIDELINES FOR COMPLETION OF NOTICE OF TERMINATION (NOT) FORM

Please adhere to the following guidelines:

Submit original, electronic or facsimile copies. Facsimile and/or electronic copies should be followed-up with submission of an original signature copy as soon as possible.

Submit completed forms to:

Illinois Environmental Protection Agency
Division of Water Pollution Control, Attn: Permit Section
1021 North Grand Avenue East
P.O: Box 19276
Springfield, Illinois 62794-9276
or call (217) 782-0610
FAX: (217) 782-9891

Or submit electronically to: epa.constilr10swppp@illinois.gov

Reports must be typed or printed legibly and signed.

NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

Use the formats given in the following examples for correct form completion.

	Example	Format
Section	12	1 or 2 numerical digits
Township	12N	1 or 2 numerical digits followed by "N" or "S"
Range	12W	1 or 2 numerical digits followed by "E" or "W"

Final stabilization has occurred when:

(a) all soil disturbing activities at the site have been completed;

(b) a uniform perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas not covered by permanent structures; or

(c) equivalent permanent stabilization measures have been employed.

Illinois Environmental Protection Agency

Bureau of Water • 1021 N. Grand Avenue E. • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Division of Water Pollution Control
Construction Site Storm Water Discharge Incidence of Non-Compliance (ION)

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Compliance Assurance Section at the above address. You may email this completed form to: epa.swnoncomp@illinois.gov

For Office Use Only
Permit No. ILR10 _____

Permittee Information:

Name: _____

Street Address: _____ P.O. Box: _____

City: _____ State: IL Zip Code: _____ County: _____

Phone: _____ Email: _____

Construction Site Information:

Site Name: _____

Street Address: _____

City: _____ State: IL Zip Code: _____

Latitude: _____ _____ _____ Longitude: _____ _____ _____ _____ _____ _____

(Deg) (Min) (Sec) (Deg) (Min) (Sec) Section Township Range

Cause of Non-Compliance

Actions Taken to Prevent Any Further Non-Compliance

Environmental Impact Resulting From the Non-Compliance

Actions Taken to Reduce the Environmental Impact Resulting From the Non-Compliance

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

_____ _____
Owner Signature: Date:

_____ _____
Printed Name: Title:

IL 532 2105 WPC
624 Rev. 10/2011

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42) and may also prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

DIVISION OF WATER POLLUTION CONTROL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
FIELD OPERATIONS SECTION

GUIDELINES FOR COMPLETION OF INCIDENCE OF NON-COMPLIANCE (ION) FORM

Complete and submit this form for any violation of the Storm Water Pollution Prevention Plan observed during any inspection conducted, including those not required by the SWPPP. Please adhere to the following guidelines:

Initial submission within 24 hours by email, telephone or fax (see region fax numbers) of any incidence of non-compliance for any violation. Submit email copy to: epa.swnoncomp@illinois.gov. After 24 hours notification, submit signed original ION within 5 days to the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance #19
Post Office Box 19276
Springfield, Illinois 62794-9276

FIELD OPERATIONS HEADQUARTERS
Bruce Yurdin, Manager
Phone: 217/782-3362 Fax: 217/785-1225
EMAIL: epa.swnoncomp@illinois.gov

Region 1 - ROCKFORD
Chuck Corley, Manager
Phone: 815/987-7760 Fax: 815/987-7005

Region 2 - DESPLAINES
Jay Patel, Manager
Phone: 847/294-4000 Fax: 847/294-4058

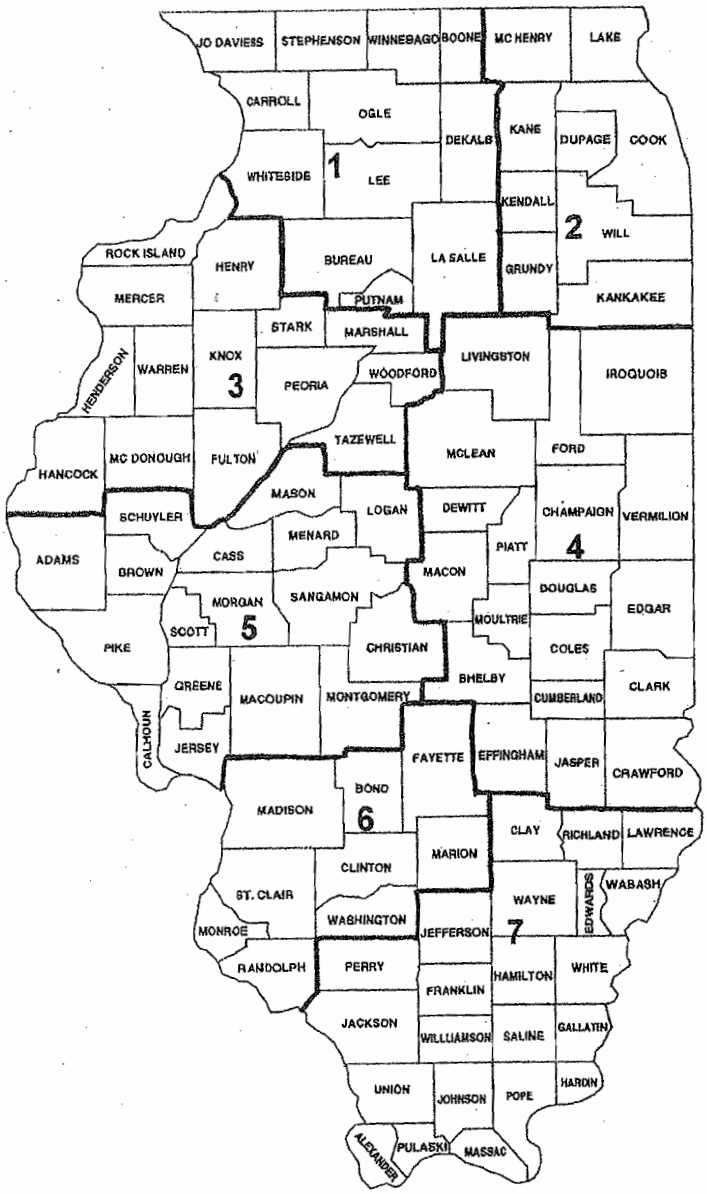
Region 3 - PEORIA
Jim Kammueller, Manager
Phone: 309/693-5463 Fax: 309/693-5467

Region 4 - CHAMPAIGN
Joe Koronkowski, Manager
Phone: 217/278-5800 Fax: 217/278-5808

Region 5 - SPRINGFIELD
Bruce Yurdin, FOS Manager
Phone: 217/782-3362 Fax: 217/785-1225

Region 6 - COLLINSVILLE
Bruce Yurdin, FOS Manager
Phone: 217/782-3362 Fax: 217/785-1225

Region 7- MARION
Byron Marks, Manager
Phone: 618/993-7200 Fax: 618/997-5467



Cook County
Department of Transportation
and Highways

John Yonan, P.E.
Superintendent of Transportation and Highways
Cook County Administration Building
69 West Washington Street 23rd Floor
Chicago, Illinois 60602-3007
Telephone (312) 603-1600-01/ Fax (312) 603-9945

National Pollutant Discharge Elimination System (NPDES)
Contractor Certification Statement

This certification statement is required as part of the National Pollutant Discharge Elimination System General Permit No. ILR10 issued by the Illinois Environmental Protection Agency and is part of the Storm Water Pollution Prevention Plan / Erosion Control Plan for this project. All Contractors and Subcontractors involved in the implementation of the erosion and sediment control plan must sign a Contractor Certification Statement before conducting any professional service at the site identified in the plan.

Project Information:

Road: **CRAWFORD AVENUE**
Limits: **DEVON AVENUE TO OAKTON STREET**

Resident Engineer: _____

I certify under penalty of law that I understand the terms of the general National Pollutant Discharge Elimination System (NPDES) permit ILR10 that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

_____ _____
Name (PRINT) of Contractor Telephone Number

_____
Signature

_____
Company Name

_____
Street Address

_____
City State Zip

Cook County
Department of Transportation
and Highways

John Yonan, P.E.
Superintendent of Transportation and Highways

Cook County Administration Building
69 West Washington Street 23rd Floor
Chicago, Illinois 60602-3007
Telephone (312) 603-1600-01/ Fax (312) 603-9945

National Pollutant Discharge Elimination System (NPDES)
Soil Erosion and Sediment Control – Inspection Report

Road: **CRAWFORD AVENUE** Section Number: **08-W4337-03-PV**

Limits: **DEVON AVENUE TO OAKTON STREET**

Date of Inspection: _____ Type of Inspection: weekly after recent rainfall
Name of Inspector: _____ Time of Inspection: _____

Stage of Construction/Active work at time of inspection:

- ☐ Pre-Construction Plan Review
- ☐ Clearing and Grubbing
- ☐ Rough Grading
- ☐ Finishing Grade
- ☐ Trenching
- ☐ Sewer Installation
- ☐ Paving
- ☐ Final Stabilization
- ☐ Other: _____
- ☐ _____
- ☐ _____
- ☐ _____

All temporary ditch checks have been installed as shown on plans Yes No
Perimeter erosion barrier/silt fence is trenched in place and functioning as indicated on plans Yes No
Silt fence has been placed around all stockpiles Yes No
All storm sewer inlets have inlet protection Yes No
Is sediment tracking from this construction project onto public roadways? Yes No
Are adjacent properties and waterways being adequately protected from construction debris and sediment? Yes No
All temporary soil erosion/sediment control BMPs *that are no longer needed* have been removed Yes No

The Contractor is hereby notified that the following corrective action must be taken:

Location: _____ Type of BMP: _____ Repair must occur by: _____ (date/time)
Describe correction to be made by Contactor:

Location: _____ Type of BMP: _____ Repair must occur by: _____ (date/time)
Describe correction to be made by Contactor :

Location: _____ Type of BMP: _____ Repair must occur by: _____ (date/time)
Describe correction to be made by Contactor:

Notification to Contactor given by: _____

Date: _____ Time: _____ Contractor/SubContractor's _____(initial upon receipt)

Erosion and Sediment Control Deficiency Deduction will be imposed per Art. 105.03 of the IDOT Standard Specifications Jan 1 , 2012.
If Contractor fails to meet requirements of ILR10 , an Incidence of Non-Compliance Form will be completed and sent to the IEPA with this repair notice.

Cook County
Department of Transportation
and Highways

John Yonan, P.E.
Superintendent of Transportation and Highways

Cook County Administration Building
69 West Washington Street 23rd Floor
Chicago, Illinois 60602-3007
Telephone (312) 603-1600-01/ Fax (312) 603-9945

National Pollutant Discharge Elimination System (NPDES)
Stormwater Pollution Prevention Plan

This plan has been prepared to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) ILR10 Permit, issued by the Illinois Environmental Protection Agency for storm water discharges from Construction Site Activities.

I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

April 12, 2013
Date

Superintendent of Transportation and Highways
Title

Road Name: **CRAWFORD AVENUE**
Limits: **DEVON AVENUE TO OAKTON STREET**
Section Number: **08-W4337-03-PV**
Location: **LINCOLNWOOD AND SKOKIE, ILLINOIS**
County: **COOK**

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1. SITE DESCRIPTION

The following is a description of the construction activity which is the subject of this plan:

It is the intent of this contract to provide for the reconstruction of Crawford Avenue from Devon Avenue to Oakton Street. Crawford Avenue will be widened by approximately one (1) foot on each side including four (4) eleven foot travel lanes, combination concrete curb and gutter and reconstruction of the physical median where one currently exists. The median will be reduced to a width of thirteen (13) feet from edge-of-pavement to edge-of-pavement. The existing pavement of Crawford Avenue shall be completely removed and then reconstructed with P. C. Concrete Pavement (10 Inch) along with a 12 inch Aggregate Subgrade. Also included is the removal and replacement of existing drainage structures, main storm sewer installation with separation of the existing combined sewer, where applicable, traffic signal work at the intersections of Crawford with Devon Avenue, Lincoln Avenue and Pratt Avenue, temporary traffic signals in order to accommodate construction staging, railroad crossing gate relocation at the CTA rail crossing, watermain installation, reconstruction of side streets to the curb return, pavement markings, signing, parkway and median landscaping with topsoil, sodding and tree planting, detour routing, street light installation, installation of ADA sidewalk ramps and warning devices, traffic protection and all other work as required to complete the improvement.

The following is a description of the intended sequence of major activities which will disturb soils for major portions of the construction site, such as grubbing, excavation, and grading: (To be completed by the Resident Engineer and Contractor.)

The total area of the project is 17 (acres).
The total area of the site expected to be disturbed by excavation, grading, or other soil breaking activities is 17 (acres).

The estimated runoff coefficients of the various areas of the site after construction activities are completed are contained in the project drainage study which is incorporated by reference into this plan. Information describing the soils at the site, including soil boring logs and soil profiles, is contained in the soils report for the project and is incorporated by reference into this plan.

According to the Soil Survey of Cook County, Illinois, soils present within project limits are

- **Alfic Udarents, clayey-Urban land-Elliott complex, 0 to 2 percent slopes** **76.2%**
- **Urban land** **14.8%**
- **Bryce silty clay, 0 to 2 percent slopes** **5.7%**
- **Orthents, clayey, nearly level, & Hoopeston fine sandy loam, 0 to 2 percent slopes** **1.2% , 0.9%**

The design/project report and plan documents are incorporated by reference and contain site maps, drainage patterns, approximate slopes before and after major grading activities, areas of major soil disturbance, locations of stabilization practices to be implemented during construction, location of all surface waters and wetlands within project limits, and location of storm water outfalls.

The names of receiving water(s) and aerial extent of wetland acreage at the site are also in the project report and plan documents.
Receiving waters: **Howard Street Storm sewer which outfalls to North Shore channel**.

The proposed improvements are located within the **Chicago/Calumet River** watershed

North Branch Chicago River sub-watershed.

The primary storm water discharge points are as follows:

Sta. 1056+27 Description: Howard Street storm sewer
Sta. Description:
Sta. Description:
Sta. Description:
Sta. Description:

2. CONTROLS

Perimeter Erosion Barrier – A silt fence will be placed adjacent to areas of construction to intercept waterborne silt and prevent it from leaving the site. These areas are indicated on the drainage plans. This control measure will be in place and functioning prior to any ground breaking.

Erosion Control Blanket – Erosion control blanket shall be placed over all disturbed areas that have been brought to final grade if sodding is not installed within 24 hours and at any time and location as deemed necessary by the Resident Engineer to protect slopes from erosion. Erosion Control Blanket with green dye is NOT acceptable.

Stone Rip Rap – Stone riprap will be maintained around the box culvert, pipe culvert, embankment near STA. _____ to protect against scour and prevent erosion.

Temporary Ditch Checks – Rolled excelsior or urethane/foam ditch checks may be used as directed by the Resident Engineer. Silt fence (statewide) and straw bales (District #1) are not allowed as temporary ditch checks.

Temporary Tree Protection – Shall consist of temporary fencing and tree trunk protection as directed by the Resident Engineer in accordance with Article 201.05 of the IDOT Standard Specifications for Road and Bridge Construction.

Sodding (for residential areas) – Sodding shall be used to stabilize all disturbed parkway areas within 24 hours of final grading unless otherwise noted on plans. If sodding is not in place within 24 hrs of final grading, erosion control blanket is to be used to protect exposed soils until sodding is installed.

Permanent Seeding (for non-residential areas) - Seeding, Class 2A shall be used to stabilize all disturbed parkway areas within 24 hours of final grading unless otherwise noted on plans. Erosion control blanket is to be installed over seeded areas. Biodegradable, lightweight erosion control blanket is preferred. ECB containing green dye is not acceptable.

Inlet Pipe Protection –Inlet pipe protection shall be provided for those structures in the parkway as shown in the plans. Drainage structure inlet filters will be placed and maintained at those locations indicated on the drainage plans and as directed by the Engineer.

Diversion of Stream flow – Throughout culvert or bridge installation, the Contractor shall maintain the flows by using a diversion channel and/or by-pass piping/pumping to divert flows through or around the work area (see Special Provision for Maintaining Drainage and Stream Protection). If a diversion channel is used, the channel walls and bed shall be protected from soil erosion by use of erosion control blanket, plastic sheeting, or by a method approved by the Engineer. When operating under permit, the authorizing Soil and Water Conservation District must also approve the method of diversion.

Isolation of Work Area - Prior to culvert or bridge installation, the Contractor shall isolate the work area from flowing water through the use of cofferdams. The system must be approved by the Engineer and by the authorizing Soil and Water Conservation District (see Special Provision for Maintaining Drainage and Stream Protection).

Dewatering Operations - The Contractor shall use a sump pit for dewatering the isolated work area. Water from the sump pit shall be discharged to a sediment basin or sediment bag of adequate size to provide for settlement prior to being discharged to the drainage system. The discharge of water from dewatering operations directly into the stream or drainage system is strictly prohibited. (see Special Provision for Maintaining Drainage and Stream Protection).

The Contractor shall initiate stabilization measures as soon as practicable on portions of the site where construction activities have ceased (permanently or temporarily) and at any time and location deemed necessary and as directed in writing by the Engineer.

The Contractor shall provide and install stabilization measures (permanently or temporarily) as needed prior to the cessation of work at the end of the construction season which will provide adequate protection until work is resumed. The Contractor shall maintain these measures throughout the dormant period.

Contractor: _____
Print name and initial

Other Controls

Waste Disposal – No solid materials, including building materials, shall be discharged into waters of the state, except as authorized by a Section 404 permit.

The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

Approved State or Local Plans

The management practices, controls, and provisions contained in this plan will be in accordance with IDOT Standard Specifications for Road and Bridge Construction (2002) and the IEPA Illinois Urban Manual (1995).

MAINTENANCE

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan.

During construction the Contractor shall:

Clean up and grade the work area to eliminate concentration of runoff.
Cover the open ends of pipes in trenches at the close of each workday.
Maintain or replace erosion and sediment control items.

Prior to any landscaping/restoration work, the Contractor shall:

Remove and dispose of silt retained by the temporary ditch checks as directed by the resident engineer.
Reinstall temporary ditch checks after cleaning.

All maintenance of erosion control systems will be the responsibility of the Contractor. All locations where vehicles enter and exit the construction site and all other areas subject to erosion should be inspected at least once every seven days and within 24 hours or the end of each ½ in. or greater rainfall event, or an equivalent snowfall (5 in.).

Inspection procedures shall be followed as outlined below.

INSPECTIONS

Qualified personnel shall inspect disturbed areas of the construction site which have not been fully stabilized, structural control measures, and locations where vehicles enter or exit the site. Such inspections shall be conducted at least once every seven (7) calendar days and within 24 hours of the end of a storm that is ½ in. or greater rainfall or equivalent snowfall (5 in.).

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, the description of potential pollutant sources identified in section a) above and pollution prevention measures identified in section a) above shall be revised as appropriate as soon as practicable after such inspection. Any changes to this plan resulting from the required inspections shall be implemented within 24 hours following the inspection (a mark-up plan showing accurate locations and types of BMPs used must be kept.)

A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of this storm water pollution plan, and actions taken in accordance with section b) shall be made and retained as part of the plan for at least three (3) years after the date of the inspection. The report shall be signed in accordance with Part VI G of the general permit.

If any violation of the provisions of this plan is identified during the conduct of the construction work covered by this plan, the Resident Engineer or Resident Technician shall complete and file an "Incidence of Noncompliance" (ION) report for the identified violation. The Resident Engineer or Resident Technician shall use forms provided by the Illinois Environmental Protection Agency and shall include specific information on the cause of non-compliance, actions which were taken to prevent any further causes of non-compliance, and a statement detailing any environmental impact which may have resulted from the non-compliance. All reports of noncompliance shall be signed by a responsible authority in accordance with Part VI. G of the general permit. The report of non-compliance shall be mailed to the following address:

Illinois Environmental Pollution Agency
Division of Water Pollution Control
Attn: Compliance Assurance Section
1021 North Grand East
Post Office Box 19276
Springfield, IL 62794-9276

NON-STORM WATER DISCHARGES

Except for flows from fire fighting activities, sources of non-storm water that is combined with storm water discharges associated with the industrial activity addressed in the plans are described below. Appropriate pollution prevention measures, as described below, will be implemented for the non-storm water component(s) of the discharge.

The only source of non-storm water discharge within the project limits will be from watering of seeding or for erosion control and landscaping purposes.

EVIDENCE OF COMPLIANCE WITH OTHER LAWS

Endangered Species Act

As part of the Biological Resource Review for the project, an evaluation of habitat for federally listed endangered and threatened species was conducted by the U.S. Fish and Wildlife Service. No suitable habitat for species listed as occurring in Cook County was found to be present.
National Historic Properties Act of 1966

A cultural resource review was made for this project as part of the planning process. It included research and documentation concerning historical and archeological resources and sites, and a field archeological survey. The project received concurrence from the Illinois State Historic Preservation Officer that no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by the proposed construction activities.

State Endangered and Threatened Species

The IL Department of Natural Resources participated in the Biological Resources Review encompassing the entire improvement and requested coordination with the Cook County Department of Transportation and Highways due to potential impacts to:

not applicable

(description of impacted resource)

This area is located: not applicable

(location in reference to the project plans)

Early coordination was completed with all necessary clearance received from the IDNR on: not applicable

(clearance letter date here)

EVIDENCE OF COMPLIANCE WITH OTHER LAWS

Clean Water Act: Wetlands and Waters of the U.S.

This project is operating under Section 404 of the Clean Water Act General Permit Application #_n/a_____as approved by the US Army Corps of Engineers on _____

This project shall comply with the water quality certification issued under Section 401 of the Clean Water Act by the IL Environmental Protection Agency.

If the project will impact 0.10 acre or more of wetlands, mitigation of 1.5:1 is required under federal regulations.

Wetland Impacts _no impacts_____acres

Mitigation Provided _____acres / Location: _____

References

Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, January 1, 2012
Illinois Urban Manual, United States Department of Agriculture – Natural Resources Conservation Service, September 1995
"*National Pollutant Discharge Elimination System (NPDES) Storm Water Permit General Permit for Construction Site Activities No. ILR10*", Illinois Environmental Protection Agency – Division of Water Pollution Control.

SPECIAL PROVISION
FOR
SODDING

This Special Provision amends the provisions of the Standard Specifications and shall be construed to be a part thereof.

252.09 Supplemental Watering. Revise the third sentence to read:

When the supplemental watering is specified on the plans, the water shall be applied at the total rate of 10 gallons per square yard (45 liters per square meter) within 24 hours of notice.

252.11 Inspection. Revise the first paragraph to read:

The Contractor shall notify the Cook County Department of Transportation and Highways of the localities from which the sod is to be obtained so that an authorized representative of the Transportation and Highways Department can inspect the field for approval. All sod shall be fresh and green when delivered. Any sod that is dried out, burned, brown or inferior in quality to the approved sod field, or in any way fails to meet the requirements of the specifications, will be rejected and removed from the job immediately and shall be replaced with suitable sod at the Contractor's expense.

To insure the delivery of suitable field sod, three weeks before cutting, the Contractor or the Supplier shall apply sufficient weed killer to eradicate existing common weeds. Seven days after the weed killer is applied, sufficient fertilizer shall be spread over the field to insure green sod prior to any delivery.

Only 2 year growing season or older approved nursery grown sod shall be placed on parkways and median strips adjacent to residential property, parks or other special areas as designated by the Engineer.

SPECIAL PROVISION
FOR
PLANTING WOODY PLANTS

This special provision amends the provisions of the standard specifications and shall be construed to be a part thereof.

253.03 Planting Time. Add the following after the first paragraph:

All planting work shall be suspended during inclement weather judged to be detrimental to the plant material by the engineer. Sunday work shall not be performed without the permission of the engineer. Any planting done without permission of the engineer due to the weather or on sundays will be subject to removal and shall be replanted with new material of the same number, size and variety at the contractor's own expense.

253.05 Transportation. Revise the second sentence of the paragraph to read:

Upon arrival at the temporary storage location or the site of the work and before planting backfill operations have begun, plants will be inspected for proper shipping procedures as defined in article 1081.01(d).

253.08 Excavation of Plant Holes. Revise the third and fourth sentences of the first paragraph to read:

Under no circumstances shall surplus excavated material be stockpiled in ditches, on shoulders, or on sodded areas. All work shall cease until this material is removed off the site of the work. All damage incurred from this operation shall be replaced or repaired at the contractor's expense.

253.08 (b) Excavation for Shrubs, Vines and Seedlings. Add the following to the second paragraph:

When shrub beds are located on existing sod areas, the sod shall be stripped from the entire shrub bed prior to the digging of shrub holes. The Engineer shall make on site inspection of shrub bed sites before excavation begins. The final bed grade shall be at the direction of the engineer. All surplus excavated material from the shrub holes shall be removed from the bed and disposed of by the contractor off the site of the work.

253.10 Planting Procedures. Revise first and second sentences of the first paragraph to read:

The prepared backfill shall consist of topsoil as approved by the Engineer. Soil removed from the hole shall be used to construct the water saucer as directed by the Engineer.

253.12 Wrapping. Add the following after the first paragraph:

Use screen wrapping as specified or use alternate, tree wrapping paper, as directed by the engineer.

253.13 Bracing. Revise the first sentence of the first paragraph to read:

No bracing shall be required for small or intermediate trees, 1.2M (4 feet) thru 2.5M (8 feet) in height. Trees larger than 50MM (2 inches) in diameter and smaller than 75MM (3 inches) in diameter, shall require 2

posts, so placed that a line between them will be parallel to the roadway. Trees more than 75MM (3 inches) in diameter require 3 posts so placed that they are equidistant from each other.

253.14 Period of Establishment. Add the following after the first paragraph:

Besides the required replacement of dead and unsatisfactory plants, all plants that have been over-pruned, resulting in an unnatural shape, and those which show more than a 40% loss of leaves after the period of establishment, shall be replaced. Any plant material stolen from the site of the work, burned or damaged during the life of the contract shall be replaced in number, size and variety at the contractor's expense.

253.14 Period of Establishment. Add the following after the fourth paragraph:

Contractor's responsibility shall be limited to one replacement if original planting fails to survive.

253.15 Plant Care (b). Add the following after the second paragraph:

All sodded or seeded areas, medians, parkways and shoulder areas damaged by deep rutting or displacement due to equipment used in planting or care of plants shall be restored at the contractor's expense.

1081.01 (c) Inspection of Plant Material. Revise the last sentence of part (1) to read:

A representative of the Architecture and Landscape Section shall place identification seals on all large and small trees. A representative number of shrubs, vines and seedlings (10 per 1,000) shall be sealed or tagged.

SPECIAL PROVISION
FOR
WORK ZONE TRAFFIC CONTROL

Revise Article 701.10 of the Standard Specifications to read:

"The Contractor shall conduct inspections of the worksite at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn, or damaged. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement."

Delete Articles 701.19(d) and Article 701.20(g) of the Standard Specifications.

SPECIAL PROVISION
FOR
TRAFFIC CONTROL DEVICES - DETOUR ROUTING

Description. This work shall consist of the furnishing of Sign Panel Type 1 and/or Type 2, complete with retroreflective sign faces, legend and supplemental panels, and installing them on sign supports, sign structures, traffic signal standard or light standard, as determined appropriate and consistent with the requirements set forth in the State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways"; the daily monitoring and maintenance of these installations; and the removal of the entire assembly and restoration of area upon completion of project.

Materials. The sign panel materials shall be as specified in Sections 1090 and 1091 of the Standard Specifications for Road and Bridge Construction. When the installation of sign supports is necessary, they shall meet the requirements for Metal Post Type B of Article 1006.29 of the Standard Specifications for Road and Bridge Construction.

Installation Requirements. Type 1 and/or Type 2 sign panels shall be installed using all required supporting and mounting hardware in accordance with the details shown in the plans or as directed by the Engineer. When used, the metal posts may be driven by hand or mechanical means to a minimum depth of 4 feet measured from the ground line or as shown in the plans. The post shall be protected by a suitable driving cap and if required by the Engineer, the material around the post will be compacted after driving.

If the post is too long, the Contractor may choose to cut the post or embed it further in the ground; however, no splicing of metal posts will be allowed. Any post so cut shall have the cut end completely deburred and treated with a zinc rich paint.

The Contractor shall be responsible for the proper elevation, offset and orientation of all posts as indicated on the plans or as directed by the Engineer.

All posts will be of sufficient length to allow a 7 foot clear-height in urban areas and a 5 foot clear-height in rural areas, or as directed by the Engineer (bottom of panel to elevation of edge of pavement). The tops of all posts shall be nearly flush with the top of the sign and shall not protrude above the sign.

Basis of Payment. This work shall be paid for at the contract lump sum price for TRAFFIC CONTROL DEVICES – DETOUR ROUTING, which price shall be payment in full for all labor, material, transportation, handling and incidentals necessary to furnish, install, monitor daily, maintain, remove all Sign Panels Type 1 and/or Type 2 and Metal Post Type B indicated on the detour plan and as directed by the Engineer.

MODIFIED URETHANE PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Add the following to Article 780.02 of the Standard Specifications:

"(h) Modified Urethane Pavement Marking ..... 1095.09"

Add the following to Article 780.03 of the Standard Specifications:

"(e) Modified Urethane ..... 1105.04"

Revise Article 780.11 of the Standard Specifications to read:

"**780.11 Modified Urethane.** The pavement shall be cleaned of all dirt, grease, glaze, or any other material that would reduce the adhesion of the markings with minimum or no damage to the pavement. New PCC pavements shall be blast-cleaned to remove all curing compounds. New asphalt and seal coated shall be in place a minimum of two weeks prior to marking applications.

Markings shall be applied on the same calendar day that the pavement surface is cleaned. If this cannot be accomplished, the surface shall be re-cleaned prior to applying the markings. Existing pavement markings shall be at least 90 percent removed. No markings shall be applied until the Engineer approves the cleaning.

Widths, lengths, and shapes of the cleaned surface shall be prepared wider than the modified urethane pavement marking material to be applied, such that a prepared area is on all sides of the urethane pavement marking material after application.

The Contractor shall notify the Engineer 72 hours prior to the placement of the markings in order than an inspector can be present during the operation. At the time of this notification, the Contractor shall indicate the manufacturer and lot numbers of urethane and reflective media that will be used. The Engineer will ensure that the approved lot numbers appear on the material package.

The pavement markings shall be applied during conditions of dry weather and subsequently dry pavement surfaces at a minimum uniform wet thickness of 25 mils (0.64 mm) according to the manufacturer's installation instructions. The application and combination of reflective media (glass beads and/or reflective elements) shall be applied at a rate specified by the manufacturer. At the time of installation the pavement surface temperature shall be 40 °F (5 °C) and rising and the ambient temperature shall be 35 °F (2 °C) and rising. The pavement surface temperature and the ambient temperatures shall be determined and documented before the start of each of marking operation. The pavement markings shall not be applied if the pavement shows any visible signs of moisture or it is anticipated that moisture, such as rain showers, may occur during the installation and curing periods."

Revise Article 780.12 of the Standard Specifications to read:

"**780.12 Inspection.** The epoxy, thermoplastic, preformed thermoplastic, preformed plastic Type B or C, polyurea, and modified urethane pavement markings will be inspected following installation, but no later than October 15 for preformed plastic markings, November 1 for thermoplastic and preformed thermoplastic markings, and December 15 for epoxy, polyurea, and modified urethane markings. In addition, they will be inspected following a winter performance period that extends 180 days from November 1.

Within 15 calendar days after the end of the winter performance period, a final performance inspection will be made. Final acceptance requirements are as follows.

(a) Lane lines: 90 percent intact by area of each individual dashed line segment.

(b) Crosswalks, stop lines, arrows, and words: 90 percent intact by area of each individual line, symbol, or letter.

(c) Center lines, edge lines, gore markings, and channelizing lines: 90 percent intact by area measured over any 10 ft (3 m) length of any individual line regardless of width.

(d) Entire project: measured in its entirety according to (a), (b), and (c) above, the entire project shall be 95 percent intact.

Upon completion of the final performance inspection, or after satisfactory completion of any necessary correction, the Engineer will notify the Contractor, in writing, of the date of such final performance inspection and release him/her from further performance responsibility.

If this inspection discloses any work, in whole or in part, which does not meet the inspection requirements, the Contractor shall, within 30 calendar days, completely repair or replace such work to the satisfaction of the Engineer.

This performance inspection and performance acceptance of the epoxy, thermoplastic, preformed thermoplastic, preformed plastic Type B and C pavement, polyurea, and modified urethane markings shall not delay acceptance of the entire project and final payment due if the Contractor requires and receives from the subcontractor a third party "performance" bond naming the Department as obligee in the full amount of all pavement marking quantities listed in the contract, multiplied by the contract unit price. The bond shall be executed prior to acceptance and final payment of the non-pavement marking items and shall be in full force and effect until final performance inspection and performance acceptance of the epoxy, thermoplastic, preformed thermoplastic, preformed plastic, polyurea, and modified urethane pavement markings. Execution of the third party bond shall be the option of the Contractor."

Revise Article 780.13 of the Standard Specifications to read:

"**780.13 Method of Measurement.** This work will be measured for payment as follows.

(a) Contract Quantities. The requirements for the use of contract quantities shall be according to Article 202.07(a).

(b) Measured Quantities. Lines will be measured for payment in place in feet (meters). Double yellow lines will be measured as two separate lines.

Words and symbols shall conform to the sizes and dimensions specified in the Illinois Manual on Uniform Traffic Control Devices and Standard 780001 and will be measured based on the total areas indicated in Table 1 or as specified in the plans.

Removal of existing pavement markings will be measured for payment according to Article 783.05."

Add the following to Section 780 of the Standard Specifications:

"**780.14 Basis of Payment.** This work will be paid for at the contract unit prices per foot (meter) of applied line width, as specified, for THERMOPLASTIC PAVEMENT MARKING - LINE; PAINT PAVEMENT MARKING - LINE; EPOXY PAVEMENT MARKING - LINE; PREFORMED PLASTIC PAVEMENT MARKING - LINE - TYPE B, C, or B - INLAID; PREFORMED THERMOPLASTIC PAVEMENT MARKING – LINE; POLYUREA PAVEMENT MARKING TYPE I – LINE; POLYUREA PAVEMENT MARKING TYPE II - LINE; MODIFIED URETHANE PAVEMENT MARKING – LINE; and/or per square foot (square meter) for THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS; PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS; EPOXY PAVEMENT MARKING - LETTERS AND SYMBOLS; PREFORMED PLASTIC PAVEMENT MARKING - TYPE B, C, or B - INLAID - LETTERS AND SYMBOLS; PREFORMED THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS; MODIFIED URETHANE PAVEMENT MARKING – LETTERS AND SYMBOLS.

When the Contractor has the option of applying Permanent Pavement Marking it shall be Thermoplastic, Preformed Plastic (Type B, C, or B - Inlaid), Epoxy, Preformed Thermoplastic, Polyurea, or Modified Urethane Pavement Markings. It will be paid for at the contract unit price per foot (meter) of applied line for PERMANENT PAVEMENT MARKING - LINE 4 (100), 5 (125), 6 (150), 8 (200), 12 (300), 16 (400), or 24 in. (600 mm) and per square foot (square meter) for PERMANENT PAVEMENT MARKING - LETTERS AND SYMBOLS.

Temporary pavement markings placed in lieu of permanent will be paid for according to Article 703.07.

Removal of existing pavement markings will be paid for according to Article 783.06.

*TABLE 1

LETTERS
sq ft (sq m)

Size	A	B	C	D	E	F	G	H	I
6 ft (1.8 m)	3.1 (0.28)	4.0 (0.37)	2.7 (0.25)	3.4 (0.31)	3.3 (0.31)	2.6 (0.24)	3.3 (0.31)	3.4 (0.31)	1.5 (0.14)
8 ft (2.4 m)	5.5 (0.51)	7.1 (0.66)	4.8 (0.45)	6.1 (0.57)	5.9 (0.55)	4.7 (0.44)	5.8 (0.54)	6.0 (0.56)	2.6 (0.24)

Size	J	K	L	M	N	O	P	Q	R
6 ft (1.8 m)	2.1 (0.2)	3.1 (0.28)	2.2 (0.20)	4.2 (0.39)	4.0 (0.37)	3.4 (0.31)	3.0 (0.28)	3.6 (0.33)	3.6 (0.33)
8 ft (2.4 m)	3.7 (0.34)	5.7 (0.53)	3.8 (0.45)	7.4 (0.69)	7.1 (0.65)	6.0 (0.56)	5.3 (0.49)	6.3 (0.59)	6.3 (0.59)

Size	S	T	U	V	W	X	Y	Z
6 ft (1.8 m)	3.2 (0.30)	2.2 (0.20)	3.2 (0.30)	2.7 (0.25)	4.2 (0.39)	2.7 (0.25)	2.2 (0.20)	2.9 (0.26)
8 ft (2.4 m)	5.7 (0.53)	3.8 (0.35)	5.6 (0.52)	4.8 (0.45)	7.3 (0.68)	4.8 (0.45)	3.9 (0.36)	5.1 (0.47)

NUMBERS
sq ft (sq m)

Size	1	2	3	4	5
6 ft (1.8 m)	1.5 (0.14)	3.3 (0.31)	3.3 (0.31)	2.9 (0.26)	3.5 (0.33)
8 ft (2.4 m)	2.6 (0.24)	5.8 (0.54)	5.8 (0.54)	5.1 (0.47)	6.1 (0.57)

Size	6	7	8	9	0
6 ft (1.8 m)	3.5 (0.33)	2.2 (0.20)	3.8 (0.35)	3.5 (0.33)	3.4 (0.31)
8 ft (2.4 m)	6.2 (0.58)	3.8 (0.35)	6.7 (0.62)	6.2 (0.58)	6.0 (0.56)

SYMBOLS

Symbol	Large Size sq ft (sq m)	Small Size sq ft (sq m)
Through Arrow	11.5 (1.07)	6.5 (0.60)
Left or Right Arrow	15.6 (1.47)	8.8 (0.82)
2 Arrow Combination Left (or Right) and	26.0 (2.42)	14.7 (1.37)

Through		
3 Arrow Combination Left, Right, and Through	38.4 (3.56)	20.9 (1.94)
Lane Drop Arrow	41.5 (3.86)	--
Wrong Way Arrow	24.3 (2.26)	--
Railroad "R" 6 ft (1.8 m)	3.6 (0.33)	--
Railroad "X" 20 ft (6.1 m)	54.0 (5.02)	--
Handicapped Symbol	4.6 (0.43)	--

*Table applies to all types of pavement marking materials."

Add the following Section to Section 1095 of the Standard Specifications:

"**1095.09 Modified Urethane Pavement Marking.** The modified urethane pavement marking material shall consist of a homogenous blend of modified urethane resins and pigments designed to provide a simple volumetric mixing ratio of two components (must be two volumes of Part A to one volume of Part B). No volatile solvent or fillers will be allowed.

(a) Pigmentation. The pigment content by weight (mass) of Part A shall be determined by low temperature ashing according to ASTM D 3723. The pigment content shall not vary more than ± two percent from the pigment content of the original qualified paint.

White pigment shall be Titanium Dioxide meeting ASTM D 476 Type II, Rutile.

Yellow pigment shall be Organic Yellow containing no heavy metals.

(b) Environmental. Upon heating to application temperature, the material shall not exude fumes which are toxic or injurious persons or property when handled according to manufacturer specifications. The modified urethane pavement marking material compositions shall not contain free isocyanate functionality.

(c) Daylight Reflectance. The daylight directional reflectance of the cured modified urethane material (without reflective media) shall be a minimum of 80 percent (white) and 50 percent (yellow) relative to magnesium oxide when tested using a color spectrophotometer with a 45 degree circumferential / zero degrees geometry, illuminant C, and two degrees observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm. In addition, the color of the yellow modified urethane shall visually match Color Number 33538 of Federal Standard 595a with chromaticity limits as follows:

x	0.490	0.475	0.485	0.539
y	0.470	0.438	0.425	0.456

(d) Weathering Resistance. The modified urethane, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness to an aluminum alloy panel (Federal Test Std. No. 141, Method 2013) and allowed to cure for 72 hours at room temperature, shall be subjected to accelerated weathering for 75 hours. The accelerated weathering shall be completed by using the light and water exposure apparatus (fluorescent UV – condensation type) and tested according to ASTM G 53.

The cycle shall consist of four hours UV exposure at 122 °F (50 °C) and four hours of condensation at 104 °F (40 °C). UVB 313 bulbs shall be used. At the end of the exposure period, the material shall show no substantial change in color or gloss.

(e) Drying Time. The modified urethane material, when mixed in the proper ratio and applied at 14 to 16 mils (0.35 to 0.41 mm) wet film thickness and with the proper saturation of glass beads, shall exhibit a no-tracking time of four minutes or less when tested according to ASTM D 711.

(f) Adhesion. The catalyzed modified urethane pavement marking materials when applied to a 4 x 4 x 2 in. (100 x 100 x 50 mm) concrete block shall have a degree of adhesion which results in a 100 percent concrete failure in the performance of this test.

The concrete block shall be brushed on one side and have a minimum strength of 3,500 psi (24,100 kPa). A 2 in. (50 mm) square film of the mixed modified urethane shall be applied to the brushed surface and allowed to cure for 72 hours at room temperature. A 2 in. (50 mm) cube shall be affixed to the surface of the modified urethane by means of an epoxy glue. After the glue has cured for 24 hours, the modified urethane specimen shall be placed on a dynamic testing machine in such a fashion so that the specimen block is in a fixed position and the 2 in. (50 mm) cube (glued to the modified urethane surface) is attached to the dynamometer head. Direct upward pressure shall be slowly applied until the modified urethane system fails. The location of the break and the amount of concrete failure shall be recorded.

(g) Hardness. The modified urethane marking materials, when tested according to ASTM D 2240, shall have a Shore D Hardness greater than 75. Films shall be cast on a rigid substrate at 14 to 16 mils (0.35 to 0.41 mm) in thickness and allowed to cure at room temperature for 72 hours before testing.

(h) Abrasion. The abrasion resistance shall be evaluated according to ASTM D 4060 using a Taber Abrader with a 1,000 gram load and CS 17 wheels. The duration of test shall be 1,000 cycles. The loss shall be calculated by difference and be less than 80. The tests shall be run on cured samples of modified urethane material which have been applied at a film thickness of 14 to 16 mils (0.35 to 0.41) to code S-16 stainless steel plates. The films shall be allowed to cure at room temperature for at least 72 hours and not more than 96 hours before testing.

(i) Tensile. When tested according to ASTM D 638, the modified urethane pavement marking materials shall have an average tensile strength of not less than 6000 psi

(41,300 kPa). The Type IV specimens shall be pulled at a rate of 1/4 in. (6.3 mm) per minute by a suitable dynamic testing machine. The samples shall be allowed to cure at 75 °F ± 2 °F (24 °C ± 1 °C) for a minimum of 24 hours and a maximum of 72 hours prior to performing the indicated tests.

(j) Compressive Strength. When tested according to ASTM D 695, the catalyzed modified urethane pavement marking materials shall have a compressive strength of not less than 12,000 psi (83,000 kPa). The cast sample shall be conditioned at 75 °F ± 2 °F (24 °C ± 1 °C) for a minimum of 72 hours before performing the indicated tests. The rate of compression of these samples shall be no more than 1/4 in. (6.3 mm) per minute.

(k) Glass Beads. The glass beads shall meet the requirements of Article 1095.04(m) and Article 1095.07 for first drop and second drop glass beads.

(l) Packaging. The material shall be shipped to the jobsite in substantial containers and shall be plainly marked with the manufacturer's name and address, the name and color of the material, date of manufacture and batch number.

(m) Verification. Prior to approval and use of the modified urethane pavement marking materials, the manufacturer shall submit a notarized certification of an independent laboratory, together with the results of all tests, stating these materials meet the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, brand name of modified urethane and date of manufacture. The certification shall be accompanied by 1 pt (1/2 L) samples each of Part A and Part B. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B.

After approval by the Department, certification by the modified urethane manufacturer shall be submitted for each batch used. New independent laboratory certified test results and samples for testing by the Department shall be submitted any time the manufacturing process or paint formulation is changed.

(n) Acceptance samples. Acceptance samples shall consist of 1 pt (1/2 L) samples of Part A and Part B, of each lot of paint. Samples shall be sent in the appropriate volumes for complete mixing of Part A and Part B. The samples shall be submitted to the Department for testing, together with a manufacturer's certification. The certification shall state the formulation for the lot represented is essentially identical to that used for qualification testing. All, acceptance samples will be taken by a representative of the Illinois Department of Transportation. The modified urethane pavement marking materials shall not be used until tests are completed and they have met the requirements as set forth herein.

(o) Material Retainage. The manufacturer shall retain the test sample for a minimum of 18 months."

Add the following to Section 1105 of the Standard Specifications:

"**1105.04 Modified Urethane.** The modified urethane pavement marking compounds shall be applied through equipment specifically designed to precisely meter the two components in the ratio of 2:1 and approved by the manufacturer of the material. The equipment shall produce the required amount of heat at the mixing head and gun tip and maintain those temperatures within the tolerances specified. The equipment shall also have as an integral part of the gun carriage, a high pressure air spray capable of cleaning the pavement immediately prior to the marking application.

The equipment shall be capable of spraying both yellow and white modified urethane, according to the manufacturer's recommended proportions and be mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimensions and prevent application failure. The truck shall have at least two urethane tanks each of 110 gal (415 L) minimum capacity and shall be equipped with hydraulic systems. It shall be capable of placing stripes on the left and right sides and placing two lines on a three-line system simultaneously with either line in a solid or intermittent pattern, in yellow or white, and applying glass beads by the double drop pressurized bead system. The system shall apply both the first drop glass beads and the second drop glass beads at a rate of 1.2 kg/L (10 lb/gal). The equipment shall be equipped with pressure gauges for each proportioning pump. All guns shall be in full view of operators at all times. The equipment shall have a metering device to register the accumulated installed quantities for each gun, each day. Each vehicle shall include at least one operator who shall be a technical expert in equipment operations and urethane application techniques. Certification of equipment shall be provided at the preconstruction conference."

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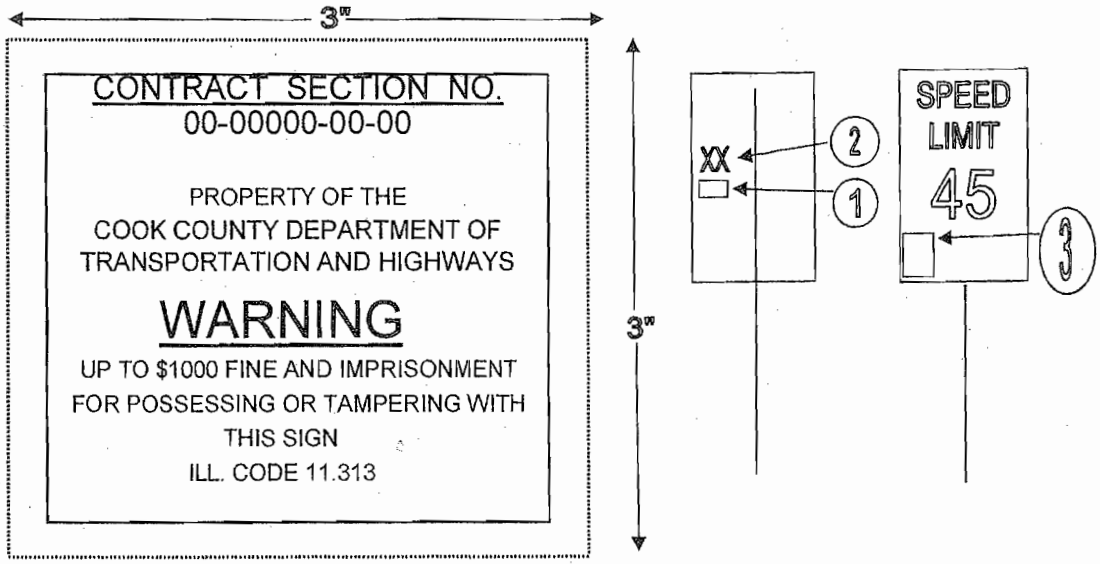
SPECIAL PROVISION
FOR
SIGN IDENTIFICATION DECAL

1. The identification decal shall have an Orange background with Black legend. The material may be of non-reflectorized or reflectorized sign face with weatherproof adhesive backing. The decal shall be applied as per drawing to the back side of all sign panels installed, replaced or relocated.

2. A decal of 3" series D numerals representing the last two digits of the year in which NEW sign was first installed shall be applied on the back of the sign and just above the identification decal. The numerals shall be of the Orange color.

3. As shown in the drawing, wording 'CCDOTH XX-XX' 3/8" high shall be stenciled at the bottom left of the sigr face where XX-XX represents the month and year of NEW sign fabrication.

The cost of the material and labor for applying the decals and year identification numerals shall be considered as incidental to the Contract. A finished sample of the decals shall be submitted to the Engineer for approval prior to application.



SPECIAL PROVISION
FOR
TRAFFIC PROTECTION

General. This item of work shall include furnishing, installing, maintaining, replacing, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic and protecting workers during the construction or maintenance of this improvement.

Traffic protection shall be provided as called for in the plans, these Special Provisions, applicable Traffic Control Highway Standards, applicable sections of the Standard Specifications, or as directed by the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through or around the construction zone. The Contractor shall arrange his operations to keep the closing of any lane of the roadway to a minimum. Where the traffic of any building in the area of the proposed improvement is of an emergency nature, such as a Hospital, Fire or Police Station traffic, the Contractor shall provide for free movement of such traffic during the course of construction.

Traffic Control Devices include signs and their supports, signals, pavement markings and markers, traffic cones, barricades with sand bags, plastic drums, channelizing devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

The Contractor is required to conduct routine inspections of the worksite at a frequency that will allow for the prompt replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), the Traffic Control Standards and the "Quality Standard for Work Zone Traffic Control Devices" issued by the Illinois Department of Transportation or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall immediately remove, cover or turn from the view of the motorists all traffic control devices which are inconsistent with detour or lane assignment patterns and conflicting conditions during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing, materials used shall totally block out reflectivity of the sign and shall cover the entire sign. The method used for covering the signing shall meet with the approval of the Engineer.

The Contractor shall coordinate all traffic control work on this project with adjoining or overlapping projects, including barricade placement necessary to provide a uniform traffic detour pattern. When directed by the Engineer, the Contractor shall remove all traffic control devices which were furnished, installed and maintained by him under this contract, and such devices shall remain the property of the Contractor. All

traffic control devices shall remain in place until specific authorization for relocation or removal is received from the Engineer.

The Contractor shall ensure that all traffic control devices installed by him are functional and effective 24 hours each day.

107.15 Dirt on Pavement or Structures. Add the following after the first paragraph of this Article.

When ordered by the Engineer, the Contractor shall use some method to allay dust and prevent a nuisance. This shall be done preferably by sprinkling the Subgrade or the portion of pavement used by trucks or busses with water. If conditions warrant, this shall receive constant attention by the Contractor. Calcium Chloride shall not be used for this purpose. No extra compensation shall be allowed the Contractor for this work.

Signs. All signs except those referring to daily lane closures shall be post mounted in accordance with Standard 702001 for all projects that exceed four days.

Construction signs referring to daytime lane closures during working hours shall be removed, covered or turned away from the view of the motorists during non-working hours.

Prior to the beginning of construction operations, the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish and replace at his own expense, any traffic sign, or post which has been damaged or lost by the Contractor or a third party".

"Fresh Oil" signs (W21-2) shall be used when prime is applied to pavement that is open to traffic. The signs are to remain until tracking of the prime ceases. The sign shall be erected a minimum of 150m (500 feet) preceding the start of the prime and on all side roads within the posted area. The "Fresh Oil" sign on the side road shall be posted a minimum of 60m (200 feet) from the mainline pavement.

"Rough Grooved Surface" signs (W8-I107) shall be used when the road has been cold milled and open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 150m (500 feet) preceding the start of the milled pavement and on all side roads within the posted area. The "Rough Grooved Surface" signs on the side roads shall be posted 60m (200 feet) from the mainline pavement. All signs shall have a 450mm x 450mm (18" x 18") orange flag and amber flashing light attached.

Whenever a lane is closed to traffic using Standard 701606, 701601, or 701701, the pavement width transition sign (W4-2R or W4-2L) shall be used in lieu of "Workers" sign (W21-1 or W21-1a).

Whenever any vehicle, equipment, workers or their activities infringe on the shoulder or within 4.5m (15 feet) of the traveled way and the traveled way remains unobstructed, then the applicable Traffic Control Standard shall be 701006, 701011, 701101, or 701701. "Shoulder Work Ahead" sign (W21-5(0)-48) shall be used in lieu of the "Workers" sign (W21-1 or W-21-1a).

The Contractor shall provide and erect any other signs that are required for traffic safety operations and the conveyance of traffic information to the motorist, which may not be included in the Traffic Control Standards. The requirement for these signs shall be determined by and installed at the direction of the Engineer.

Barricades:. Any drop off greater than 75mm (3 inches), but less than 150mm (6 inches) within 2.5m (8 feet) of the pavement edge shall be protected by Type I or II barricades equipped with mono-directional steady burn lights at 30m (100 foot) center to center spacing. If the drop off within 2.5m (8 feet) of the pavement edge exceeds 150mm (6 inches), the barricades mentioned above shall be placed at 15m (50 foot) center to center spacing. Barricades that must be placed in excavated areas shall have leg extensions installed such that the top of the barricade is in compliance with the height requirements of Standard 702001. In addition to the placement of barricades as described above, pavement drop off signs (W8-9a) shall be used along with the barricades and at the direction of the Engineer.

Placement of all signs, barricades or drums shall proceed in the direction of flow of traffic. Removal of all signs, barricades or drums shall start at the end of the construction areas and proceed toward oncoming traffic unless otherwise directed by the Engineer.

All Type I and Type II barricades, drums and vertical panels shall be equipped with a steady burn light when used during hours of darkness unless otherwise stated herein.

Check barricades shall be placed in work areas perpendicular to traffic every 300m (1,000 feet), one per lane and per shoulder, to prevent motorists from using work areas as a traveled way. Two additional check barricades shall be placed in advance of each patch excavation or any other hazards in the work area, the first at the edge of the open traffic lane and the second centered in the closed lane. Check barricades shall be Type I or II and equipped with a flashing light.

Arrow Boards. A flashing arrow board shall be operating at all times when a lane is closed to traffic on a multilane highway. Arrow boards shall be provided and located in a head-on position within each lane closure taper.

Temporary Concrete Barrier Vertical Panels and Lights. Whenever temporary concrete barrier is specified in the plans, vertical panels and steady burning lights meeting the requirement of Articles 1106.01 and 1106.02 of the Standard Specifications and Standard 702001 shall be installed on the barrier at 15m (50 foot) centers minimum or at the spacing shown on the plans. The method of mounting shall be approved by the Engineer. Upon conclusion of the work, the panels and lights shall be removed and shall remain the property of the Contractor.

Pedestrian Sidewalk Control. The Contractor shall install, maintain and remove necessary signs and barricades needed to direct pedestrians to usable sidewalks and walkways during the construction in accordance with Traffic Control Standard Case 701801 or as directed by the Engineer. The Contractor shall make adequate provision for the free passage of foot traffic at all intersecting streets which are to remain open to traffic. The materials or equipment used in the construction of this improvement shall be so placed as to afford access to abutting private properly and to all hydrants and valves with a minimum of inconvenience.

All barricades shall be Type I or II equipped with flashing lights. At each point of closure, sufficient numbers of barricades shall be used to completely close the sidewalk to pedestrian movement. Where construction

activities involve sidewalks on both sides of the street, the work shall be staged so that both sidewalks are not out of service at the same time.

107.09 Public Convenience and Safety. Revise the Sixth paragraph of this Article to read as follows:

The following vertical and horizontal restrictions shall pertain to roads as defined in the Illinois Highway Code, Article 2, Division 1, Section 2-101, 2-102, and 2-103 when construction is being performed with the road open to traffic.

The Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection. The Contractor shall dispatch workers, materials and equipment to correct any such deficiencies. The Contractor shall respond to any call from the Department concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from the time of notification.

Personal vehicles shall not park within the right-of-way except in specific areas designated by the Engineer.

The contractor shall maintain at least one lane of traffic at all times on two lane roads and at least one lane in each direction on 4 or more lane roads, during the construction of this project. The Contractor shall also maintain areas to entrances and side roads along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused to the Contractor by complying with these requirements shall be considered as incidental to the contract, and no additional compensation will be allowed.

On two lane roads, the Contractor is to plan the work so that there will be no open holes in the pavement and that all barricades will be removed from the pavement during non-work hours.

On four or more lane highways, there shall be no open holes in the pavement being used by the traveling public. Lane closures, if allowed, will be in accordance with the applicable standards, any staging details shown in the plans and other applicable contract documents.

The Contractor shall remove all equipment from the shoulders and medians after work hours.

No road closures nor restrictions shall be permitted except those covered by the Traffic Control Highway Standards without written approval by the Engineer.

When traveling in lanes open to public traffic, the Contractor's vehicles shall always move with and not against or across the flow of traffic. These vehicles shall enter or leave work areas in a manner which will not be hazardous to, nor interfere with, traffic.

Pavement Markings. Temporary Pavement Marking Paint used on temporary or unfinished surfaces shall be maintained to the highest degree of visibility and reflectivity and on long term projects shall be repainted when the temporary pavement marking shows signs of deterioration or at a minimum of every three (3) months and as directed by the Engineer at no additional cost and is considered as incidental to the cost of Traffic Protection.

Temporary pavement marking shall be applied as solid unbroken lines when used to delineate any pavement transition, turn lane transition and storage bay. Double yellow centerline shall be used across a bridge deck where the distance to be marked is less than 160 feet.

Temporary raised reflective bi-directional (amber) pavement markers (Section 781 and Article 1096.02 of the Standard Specifications) shall be used, and replaced when required, throughout a temporary by-pass detour pavement at no additional cost.

Method of Measurement. Delete: Article 701.19 Method of Measurement

Traffic Protection will not be measured for payment but shall include the furnishing, installing, maintaining, relocation and removal of traffic control devices required in the plans and these special provisions and all temporary paint pavement marking lines, letters and symbols.

Basis of Payment. Delete: Article 701.20 Basis of Payment

This work will be paid for at the lump sum price for TRAFFIC PROTECTION, which price shall be payment in full for all labor, materials, transportation, handling and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices when required, such as signing, arrow boards, barricades, plastic drums, road closures, paint pavement marking lines and letters and symbols (Section 780 and Article 1095.02 of the Standard Specifications), temporary concrete barrier vertical panels and lights (Standard 702001), flexible delineators (Standard 702001), prismatic barrier reflectors (Sections 782 and 1097 of the Standard Specifications), temporary raised reflective pavement markers (Section 781 and Article 1096.02 of the Standard Specifications) and all traffic control devices indicated in the plans and specifications. The salvage value of all material removed (including existing traffic signs - when removal is required) shall be reflected in the bid price for this item.

Delays to the Contractor caused by complying with these requirements will be considered incidental to the item for Traffic Protection, and no additional compensation will be allowed.

Payment Adjustments. The Engineer may require additional traffic control to be installed in accordance with standards and/or designs other than those included in the plans. In such cases, the standards and/or designs will be made available to the Contractor at least one week in advance of the change in traffic control. Payment for any additional traffic control required will be in accordance with Article 109.04 of the Standard Specifications.

Revisions in the phasing of construction or maintenance operations, requested by the Contractor, may require traffic control to be installed in accordance with standards and/or designs other than those included in the plans. Revisions or modifications to the traffic control shown in the contract shall be submitted by the Contractor for approval by the Engineer. No additional payment will be made for a Contractor requested modification.

In the event the sum total value of all the work items for which traffic protection is required is increased or decreased by more than ten percent (10%), the contract bid price for Traffic Protection will be adjusted as follows:

Adjust contract price = .25P + .75P [1$\pm$(X-0.1)]

Where "P" is the contract price for Traffic Protection

Difference between original and final sum total

value of all the work items for which

Where "X" = protection is required.

Original sum total value of all work items for which traffic protection is required.

The value of work items used in calculating the increase or decrease will include only items which have been added to or deducted from the contract under Article 104.02 of the Standard Specifications and only items which require use of Traffic Protection.

In the event the Department cancels or alters any portion of the contract which results in elimination or noncompletion of any portion of the work, payment for partially completed work will be made in accordance with Article 109.06 of the Standard Specifications.

SPECIAL PROVISION
FOR
PROJECT SIGNS PLAQUE

County will erect signs announcing `A Cook County Department of Highways, Road Improvement Project' with a 24"X4" size plaque reading `COMING SOON' in front and `COMPLETED' in back. Contractor will remove this 24"X4" size plaque and store it at the beginning of work on the contract. When work on the contract is completed, Contractor will attach the plaques to the Project signs reading `COMPLETED'. The cost of this work will be incidental to the contract.

SPECIAL PROVISION
FOR
ERADICATION OF EXISTING PAVEMENT MARKING

Description. This work shall consist of eradication of existing painted, thermoplastic or preformed plastic pavement markings by sand or hydro-blasting and/or by grinding.

Equipment. All equipment shall be approved by the Engineer prior to use and shall be sufficient capacity to efficiently and economically clean the roadway surface to the specified cleanliness. The equipment shall be power driven and in good operating condition. The equipment shall utilize moisture and oil traps, in working order, of sufficient capacity to remove contaminants from the air and prevent deposition of moisture, oil, or other contaminants on the roadway surface.

If a high pressure water spray or "hydro blast" is used, the pressure at the nozzle shall be no less than 6,500 psi and no more than 9,500 psi with 10 to 13 gallons of water per minute used.

The blasting medium shall be a quality commercial product capable of producing the specified surface cleanliness without the deposition of deleterious materials on the cleaned surface.

Eradication Requirements. The eradication shall be performed only on that portion of the roadway surface designated by the Engineer or as specified in the plans. Widths, lengths, and shapes of the blast-cleaned surface shall be of sufficient size to include the full area of the specified pavement marking to be removed.

Ninety percent (90%) of the pavement substrate shall be exposed. This shall include not only removal of the existing white or yellow pavement markings, but shall also include sufficient removal of any black markings which exist between the lane lines.

Over cleaning to the extent of possible damage to the roadway surface shall be held to a minimum. Very small particles of tightly adhering existing markings may remain in place if, in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.

The cleaning operation shall be a continuous moving process with minimum interruption to traffic. Care should be taken to protect all persons and property from injury or damage.

Method of Measurement. Eradicated pavement marking shall be measured for payment in square feet. The area used for measurement shall be the actual area of lines and in the case of letters and symbols shall be the area of the smallest rectangle that will circumscribe each individual letter or symbol.

Basis of Payment. This work will be paid for at the contract unit price per square foot of ERADICATION OF EXISTING PAVEMENT MARKING, which price shall include eradication of existing painted, thermoplastic or preformed plastic pavement markings to the satisfaction of the Engineer.

SPECIAL PROVISION
FOR
TRAFFIC SIGNAL WORK GENERAL

All work and equipment performed and installed under this contract, shall be governed and shall comply to the State of Illinois "Standard Specifications for Road and Bridge Construction" latest edition, herein referred to as the Standard Specifications and the "District One Standard Design Details"; the State of Illinois "Manual on Uniform Traffic Control Devices for Streets and Highways", latest edition; the "National Electrical Code" latest edition herein referred to as the NEC; the National Electrical Manufacturers Association, herein referred to as NEMA (all publications for traffic control items) latest editions; the International Municipal Signal Association, herein referred to as IMSA "Official Wire & Cable Specifications Manual" latest edition; the Institute of Transportation Engineers, herein referred to as the ITE, Technical Report No.1, "A Standard for Adjustable Face Vehicular Traffic Control Heads"; AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals" and the "Supplemental Specifications" and "Recurring Special Provisions" noted herein.

The following Special Provisions supplement the above specifications, manuals, and code. The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. The locations and the details of all installations shall be as indicated on the Plans or as directed by the Engineer. Traffic signal construction and maintenance work shall be performed by personnel holding IMSA Traffic Signal Technician Level II certification. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer. In case of conflict with any part or parts of said documents, these Special Provisions shall take precedence and shall govern.

In order to reduce possible vehicular conflicts with fixed objects and avoid public criticism, it is necessary to require that no posts, poles, heads, or controller cabinets be installed until all traffic signal control equipment is brought to and located on the job site.

The construction, installation and/or removal work shall be accomplished at all the intersections within the limits of this project or as shown in the plans.

Description of Work. The work to be done under this contract consists of furnishing and installing all traffic signal work as specified on the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Restoration. All areas and plant material damaged by the installation of Traffic Signal posts, mast arm poles, underground cables or conduits, handholes and control cabinets shall be replaced as follows:

- Grass Areas: Replace top soil to a depth of four (4) inches (100 mm), re-grade shoulders, ditch slopes, and open areas back to former existing grades, fertilize, seed and mulch all damaged areas.

- Sod Areas (areas adjacent to residential, commercial and industrial properties and any other areas as directed by the engineer): Fertilize and re-sod damaged areas.
- Plant Materials: Remove and replace damaged trees, shrubs and vines with the same varieties that existed prior to damage.

- Shoulders other than Stabilized and Backslopes, medians, sidewalks, pavement, etc.: Replace shoulder to original condition and restore edge of backslope to original lines and grades. Medians, sidewalks and pavement shall be replaced in kind.

- All brick pavers disturbed in the work area shall be restored to their original configuration or as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer

All damaged landscape shall be replaced in accordance with Section 250 through 254 of the Standard Specifications.

Any damage, due to the installation of traffic signal equipment; or necessary removal at handholes, jacking pits, and inspection openings, of sidewalks, curbs, gutters, median and island paving, and/or pavement, shall be repaired or replaced by the Contractor. Repair or replacement shall be made with a like material of like thickness to the existing surface. Restoration of traffic signal work area shall be included in related pay items such as foundation, conduit, handhole, trench and backfill, etc.

Control of Traffic Signal Materials.

All work shall meet the requirements of the "Standard Specifications for Road and Bridge Construction", except as follows:

The controller and all control equipment shall be of a manufacturer that is approved by this Department. The manufacturer shall have a representative located in the six (6) county Chicago areas.

The intent of this Section is to prescribe the materials and construction methods commonly used for traffic signal installations. All material furnished shall be new. Traffic materials and equipment shall bear the U.L. label whenever such labeling is available.

All iron and steel products, which are to be incorporated into work shall be domestically manufactured or produced and fabricated. The contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The application of all coatings, epoxy, galvanizing, painting, etc., to metal products shall be domestically applied.

Metal material other than iron and steel, which are not domestically produced, may be accepted provided:

(a) The contractor notifies the Department in advance of his/her intension to use other than domestically manufactured or produced material.

(b) Written evidence is provided in English of compliance with all requirements of the specifications.

(c) Physical tests conducted by the department verify the acceptability of the material.

Before any signal equipment, including mast arm assemblies, poles, controller cabinets, all control equipment and signal heads, are delivered to the job site, the Contractor shall obtain and forward to the Engineer a certified, notarized statement from the manufacturer, containing the catalog numbers of the

equipment and/or material, guaranteeing that the equipment and/or material, after manufacture, comply in all respects with the requirements of the Specifications and these Special Provisions.

All material approval requests shall be within thirty (30) consecutive calendar days after the Contract is awarded, or at the pre-construction meeting, whichever is first.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements that have been installed on the job will be done at the Contractor's own risk and may be subject to removal and disposal at the Contractor's expense.

The Contractor must submit the following for approval by the Engineer:

- Three (3) complete set of manufacturer's descriptive literature, drawings, and specifications of the traffic signal equipment, handholes, junction box, cable, conduit and all associated items that will be installed on the contract. Partial or incomplete submittal will be returned without review.

- The contractor shall supply samples of all wire and cable, and shall make up and supply samples of each type of cable splice proposed for use in the work for the-Engineer's approval.

- Seven (7) complete shop drawings of the mast arm assemblies and poles including combination mast arm poles are required, showing in detail the fabrication, anchor bolts, reinforcing materials, design material, thickness of sections and weld sizes. These drawing shall be at least 11" x 17" (275mm x 425mm) in size and adequate quality for microfilming.

- Certain non-standard mast arm poles and assembles will require additional review. The Contractor shall account for additional review time in their schedule.

- Seven (7) copies of a letter from the Traffic Signal Contractor on company letterhead listing contract number or permit number, project location limits, pay item number and description and listing the manufacturer's name and model numbers of the proposed equipment to be supplied and stating that the proposed equipment meets all Contract requirements. The letter will be reviewed by the Engineer to determine whether the equipment to be used is approvable. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.

- Five (5) copies of a letter from the Traffic Signal Contractor listing the System Coordination and Timing (SCAT) consultant's name shall be supplied. The letter will be reviewed by the Engineer to determine whether the SCAT consultant to be used is approved. The letters will be stamped as approved or not approved accordingly and returned to the Contractor.

- Where certifications and/or warranties are specified. The information submitted for approval shall include certifications and warranties. Certifications involving inspections and/or tests of material shall be complete with all test data, dates and times.

- All above shall be stamped with the Section Number, Permit Number, or Contract Number and Intersection(s) name(s). Pay item numbers shall also be included. If the above required information is

not on each sheet of the above literature or letters, the equipment and material cuts will not be reviewed and shall be returned to the Contractor.

- Exceptions, Deviations and Substitutions. In general, exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

- After the engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status. Since the Engineer's review is for conformance with design concept only. It is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop working, layout drawings, or other documents by the Departments approval thereof. The Contractor must be in full compliance with contract and specification requirements.

Maintenance and Responsibility.

Revise Article 801.11 to read as follows.

a) Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, Cook County Department of Transportation and Highways, Private Developer, or the Municipality in which they are located. Once the Contractor has begun any work on any portion of the project all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation", "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation", shall become the full responsibility of the Contractor. Automatic Traffic Enforcement equipment is not owned by the County and the Contractor shall not be responsible for maintaining it during construction. The Contractor shall supply the engineer and the Department's Electrical Maintenance Contractor a 24-hour emergency contact name and telephone number.

b) When the project has a pay item for "Maintenance of Existing Traffic Signal Installation", "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation", the Contractor must notify both the Design Engineer at (312) 603-1730 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the

Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.

c) Projects which call for the storage and re-use of existing traffic signal equipment shall meet the requirements of Article 801.15(C) of the Standard Specifications, which call for a 30 day test period prior to project acceptance.

d) Contracts such as pavement grinding or patching which result in the destruction of traffic signal loops may not require maintenance transfer, unless a pay item of "Maintenance of Existing Traffic Signal Installation" is included in the project. When the pay item of "Maintenance of Existing Traffic Signal Installation" is not included, the Contractor is required to notify of intent to work and an inspection. A minimum of seven (7) working days prior to the loop removal, the Contractor shall notify the Design Engineer at (312) 603-1730, the Department's Electrical Maintenance Contractor and the owner of automatic traffic enforcement prior to the loop removal, at which time arrangements will be made to adjust the traffic controller timing to compensate for the absence of detection. Damaged Automatic Traffic Enforcement equipment, including cameras, detectors, or other peripheral equipment, shall be replaced by others, per Permit agreements or other agreements, at no cost to the contract except for City of Chicago projects in which the detectors shall be replaced. See additional requirements in these specifications under Inductive Loop Detector.

e) The Contractor is further advised that the existing traffic signal(s), and/or the existing temporary installation(s), must remain in operation during all construction stages except for the most essential down time. Any shutdown of the traffic signal installation(s), for a period to exceed fifteen (15) minutes, must have the prior approval of the Engineer. Such approval will generally only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns will not be allowed during inclement weather or during Holiday periods. Any other traffic signal shutdown, either for periods in excess of one (1) hour or outside of the 10:00 a.m. to 3:00 p.m. weekday period must have prior approval of the Engineer. The Contractor, prior to the commencement of his work, shall notify the State Electrical Maintenance Contractor, the Cook County Electrical Maintenance Contractor, or the concerned Municipality, of his intent to perform this work.

f) The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of $500 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department's Electrical Maintenance Contractor may inspect any signalizing device on the Department's highway system at any time without notification.

g) Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where

vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

Damage to Traffic Signal System.

Add the following to Article 801.12(b).

a) Any damaged equipment or equipment not operating properly from any cause whatsoever shall be repaired with new equipment provided by the contractor at no additional cost to the Contract and/or owner of the traffic signal system all as approved by the Engineer. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal will not be accepted. Cable splices outside the controller cabinet will not be allowed.

b) Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause whatsoever, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement or other agreements. Except in the City of Chicago in which detectors are damaged due to a County project.

Traffic Signal Inspection (Turn – On).

Revise Article 801.15b to read as follows.

a) The Contractor must have all electric work completed, the electrical service installation connected by the utility company and equipment field tested by the Vendor prior to the Department's "turn-on" field inspection. If in the event the Engineer determines the work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected. The Department will not grant a field inspection until written certification is provided from the Contractor stating the equipment has been field tested and the intersection is operating according to Contract requirements.

b) When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specification, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Design Engineer at (312) 603-1730 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will not grant a field inspection until notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Department's facsimile number is (312) 603-9956. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Pre-emption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on schedule, as well as stage changes and phase changes during construction.

c) The Contractor must have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and turn-on of the traffic signal installation. The Contractor shall be responsible to provide a Police Officer to direct traffic at the time of testing.

d) The Contractor shall provide a representative from the control Equipment Vendor's office to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons. Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

e) Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal turn-on. If approved, traffic signal acceptance shall be verbal at the turn-on inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

f) All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available acceptable from the Department.

g) All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Design Engineer at (312) 603-1730 to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of $500 per month per incident.

h) All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices under which the subject materials and signal equipment are paid and no additional compensation will be allowed. Materials and signal equipment not complying with the above requirements that have been installed on the job will be at the Contractor's own risk and shall be subject to removal and disposal at the Contractor's expense.

i) The Contractor shall furnish the Cook County Department of Transportation and Highways with any special tools or wrenches that may be required for assembling or maintaining the control equipment and traffic control signal head assemblies.

j) All control cable, when complete in place but before permanent connection, shall be subject to insulation tests at the discretion of the Engineer. The tests shall be made with approved insulation resistance testing equipment rated at 500 volts D.C. and witnessed by the Engineer. Results of these tests shall be submitted to the Department in written form, bearing the Engineers signature and shall become part of the project records. A final inspection of the traffic signal installation shall not be held until results of this insulation test have been received.

k) All equipment such as new controllers and allied central equipment with the exception of cable, conduit, and other materials which require the use of the State of Illinois Materials Testing Laboratories, shall be built in the suppliers shop and inspected by a representative of this Department prior to the installation of such equipment, and upon approval of this equipment an inspection ticket will be issued to the Contractor by the inspection agency (State of Illinois Material Testing Laboratory or the Cook County Transportation and Highways Mechanical-Electrical

Section). The controller and allied control equipment shall be prepared in the suppliers shop and run under a load of a minimum of 500 watts per phase for at least 48 hours before it is inspected for proper operation and sequencing. After it passes this test an inspection ticket will be issued by the Cook County Transportation and Highways Mechanical-Electrical Section representative and it can then be delivered to the job site for installation.

l) Upon completion of the installation, a final inspection will be carried out by qualified representatives of the Highway Agencies involved.

m) If the Contractor fails to comply with any of the aforementioned requirements, the County shall impose such sanction as it may determine to be appropriate including but not limited to withholding all payments to the Contractor on this contract until the provisions of this special provision are complete with and/or implementation of article 108.10 of the standard specifications.

At the final inspection it will be required that the Contractor will have submitted to the Engineer all necessary inspection tickets for all new equipment and materials installed under this Contract. If the Contractor has not obtained the inspection tickets on any portion of the new equipment and materials, the representative of this Department will have the authority to postpone the final inspection until such time as the above has been satisfied. Any postponement of the final inspection for this reason shall not relieve the Contractor of his full maintenance responsibilities until such time as the installation is re-inspected and accepted by the County.

The County requires the following from the Contractor at traffic signal turn-on.

1) The Contractor shall, at the turn-on furnish one set of signal plans (24"x36") of record with field revisions marked in red ink to the maintaining agency.

2) Written notification from the Contractor and the Equipment Vendor of satisfactory field testing.

3) A knowledgeable representative of the controller equipment supplier shall be required at the permanent and temporary traffic signal turn-on. The representative shall be knowledgeable of both cabinet design and controller functions and shall have sufficient test and spare equipment to make the traffic signal installation operational.

4) A copy of the approved material letter.

5) One (1) copy of the operation and service manuals of the signal controller and associated control equipment.

6) Five (5) copies 11" x 17" (280 mm X 430 mm) or 22" x 34" (560 mm x 860 mm) of the cabinet wiring diagrams and cable logs.

7) The controller manufacturer shall supply a printed form, not to exceed 11" x 17" (280 mm x 430 mm), for recording the traffic signal controller's timings; backup timings, coordination splits, offsets, cycles; TBC; Time of Day, week and year programs; traffic responsive program, detector phase assignment, type and detector switching; and any other functions programmable from the keyboard. The form shall include a location, date, manufacturers name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.

8) All Manufacturer and Contractor warranties and guaranties required by Article 801.14.

RECORD DRAWINGS

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

a. "When the work is complete, and seven days before the request for a final inspection, the full-size set of contract drawings. Stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval.

b. In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible."

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations

Datum to be used shall be North American 1983.

Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

1. Description of item
2. Designation or approximate station if the item is undesignated
3. Latitude
4. Longitude

Examples:

Description	Designation	Latitude	Longitude
Mast Arm Pole Assembly (dual, combo, etc)	MP (SW, NW, SE or NE corner)	41.580493	-87.793378
FO mainline splice handhole	HHL-ST31	41.558532	-87.792571
Handhole	HH	41.765532	-87.543571
Electric Service	Elec Srv	41.602248	-87.794053
Conduit crossing	SB IL83 to EB I290 ramp SIDE A	41.584593	-87.793378
PTZ Camera	PTZ	41.584600	-87.793432
Signal Post	Post	41.558532	-87.792571
Controller Cabinet	CC	41.651848	-87.762053
Master Controller Cabinet	MCC	41.580493	-87.793378
Communication Cabinet	ComC	41.558532	-87.789771
Fiber splice connection	Toll Plaza34	41.606928	-87.794053

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 100 feet. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 5 meter accuracy after post processing.

GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years."

Location of Underground State and County Maintained Facilities.

Revise Article 803 to read as follows.

If this contract requires the services of an electrical contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT and CCDOTH facilities prior to performing any work. If this contract does not require the services of electrical contractor, the Contractor may request one free locate for existing IDOT and CCDOTH electrical facilities from the Electrical Maintenance Contractor(s) prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted, in the City of Chicago contact D.I.G.G.E.R. at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

SPECIAL PROVISION
FOR
CONSTRUCTION AT RAILROAD CROSSING

Prior to the start of work, the Contractor is required to contact the railroad as listed below for requirements pertaining to construction in the vicinity of its existing railroad crossing.

The following is a prelimninary summary of the requirements obtained by the County from the Railroad, including approximate costs to the contractor.

1) Prior to the start of any work the contractor is required to obtain, from the Railroad, a Right-Of-Entry Agreement with the Railroad. Cost =

   The Railroad official to be contacted is:
   NAME:
   PHONE:
   DOT CROSSING NUMBER:

2) The Contractor is required to use Railroad flagmen during construction. Approximate Cost = $600 per day per flagman.

3) The contractor will be required to carry Railroad Protective Liability and Property Damage Liability Insurance in accordance with Article 107.11 of the Standard Specifications. The limits of liability shall be in accordance with Article 107.11 of the Standard Specifications unless otherwise noted. A separate policy is required for each railroad indicated below unless otherwise noted.

NAMED INSURED	NUMBER AND SPEED OF PASSENGER TRAINS	NUMBER AND SPEED OF FREIGHT TRAINS

APPROVAL OF INSURANCE: The ORIGINAL and one CERTIFIED copy of each required policy shall be submitted to the Resident Engineer for approval. The Contractor will be advised when the Department has received approval of the insurance from the railroad(s). Before any work begins on railroad right-of-way, the Contractor shall submit to the Resident Engineer evidence that the required Railroad Protective Liability Insurance has been approved by the railroad(s). The Contractor shall also provide the Resident Engineer with the expiration date of each required policy.

The cost to the contractor for payments to the Railroad for all required permits, insurance, flagmen, cable locates, and any other requirements as dictated by the Railroad, shall be incidental to the contract. The County will not reimburse the contractor for these costs, and no additional compensation will be allowed.

Prior the start of work, the contractor shall present proof, to the County, of fulfilling the Railroad's permit and insurance requirements.

SPECIAL PROVISION
FOR
LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL

This work shall consist of furnishing and installing a traffic signal head or pedestrian signal head with light emitting diodes (LED) of the type specified in the plan or retrofitting an existing traffic signal head with a traffic signal module or pedestrian signal module with LEDs as specified in the plans.

LED signal heads (All Face and Section Quantities), (All Mounting Types) shall conform fully to the requirements of Sections 880 and 881 and Articles 1078.01 and 1078.02 of the Standard Specifications amended herein:

All signal and pedestrian heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signal and/or pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.

Pedestrian signal heads shall be furnished with the international symbolic "Walking Person" and "Upraised Palm" displays. Egg crate sun shields are not permitted.

Signal heads shall be positioned according to the "District One Standard Traffic Signal Design Details.

1. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 60 months from the date of delivery. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH] or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 60 months of the date of delivery shall be replaced or repaired. The manufacturer's written warranty for the LED signal modules shall be dated, signed by an Officer of the company and included in the product submittal to the County.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:

   a. 12 inch (300 mm) circular, multi-section
   b. 12 inch (300 mm) arrow, multi-section

2. The maximum weight of a module shall be 4 lbs. (1.8 kg).

3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

4. Material used for the lens and signal module construction shall conform to ASTM specifications for the materials.

5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.

6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.

7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

1. The minimum initial luminous intensity values for the modules shall conform to the values in Table 1 of the VTCSH (2005) for circular signal indications, and as stated in Table 3 of these specifications for arrow and pedestrian indications at 25°C.

2. The modules shall meet or exceed the illumination values stated in Article 1078.01(3)c of the Standard Specifications for circular signal indications, and Table 3 of these specifications for arrow and pedestrian indications, throughout the useful life based on normal use in a traffic signal operation over the operating temperature range.

3. The measured chromaticity coordinates of the modules shall conform to the chromaticity requirements of Section 4.2 of the VTCSH (2005) or applicable successor ITE specifications.

4. The LEDs utilized in the modules shall be AlInGaP technology for red, yellow, Portland orange (pedestrian) and white (pedestrian) indications, and GaN for green indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40°C to +74°C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.

2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.

3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).

4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.

5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

6. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.

2. Retrofit modules can be manufactured under this specification for the following faces:

   a. 12 inch (300 mm) circular, multi-section
   b. 12 inch (300 mm) arrow, multi-section

3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.

4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).

5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.

6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.

7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12 inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) for arrow indications.

2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12 inch (300 mm) programmed visibility PV module only. All general specifications apply unless specifically superseded in this section.

1. The module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

(g) The following specification requirements apply to the 12 inch (300 mm) Pedestrian module only. All general specifications apply unless specifically superseded in this section.

1. Each pedestrian signal LED module shall provide the ability to actuate the solid upraised hand and the solid walking person on one 12 inch (300mm) section.

2. Two (2) pedestrian sections shall be installed. The top section shall be wired to illuminate only the upraised hand and the bottom section shall be the walking man.

3. "Egg Crate" type sun shields are not permitted. All figures must be a minimum of 9 inches (225mm) in height and easily identified from a distance of 120-feet (36.6m).

Basis of Payment. This item shall be paid for at the contract unit price EACH for SIGNAL HEAD, LED, or OPTICALLY PROGRAMMED SIGNAL HEAD, LED, PEDESTRIAN SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

When installed in an existing signal head, this item shall be paid for at the contract unit price EACH for SIGNAL HEAD, LED, OPTICALLY PROGRAMMED SIGNAL HEAD, LED, PEDESTRIAN SIGNAL HEAD, LED of the type specified, RETROFIT, which price shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections, and the method of mounting.

SPECIAL PROVISION
FOR
LIGHT EMITTING DIODE (LED) PEDESTRIAN COUNTDOWN SIGNAL HEAD

The installation of an Pedestrian Countdown Signal Head, Light Emitting Diode shall meet the requirements of Section 881 and 1078.02 of the Standard Specifications, except as follows:

Description.

This work shall consist of furnishing and installing a pedestrian countdown signal head, with light emitting diodes (LED) of the type specified in the plans.

Pedestrian Countdown Signal Head, Light Emitting Diode, shall conform fully to the SIGNAL HEAD, LIGHT EMITTING DIODE specification, with the following modifications:

Application.

1. Pedestrian Countdown Signal Heads shall not be used at signalized intersections where traffic signals and railroad warning devices are interconnected.

2. All pedestrian signals at an intersection shall be the same type and have the same display. No mixing of countdown and other types of pedestrian traffic signals will be permitted.

Installation.

1. Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with the housings glossy black polycarbonate. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.

2. Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Material.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.

2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.

3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.

4. The module shall allow for consecutive cycles without displaying the steady Upraised Hand.

5. The module shall recognize preemption events and temporarily modify the crossing cycle accordingly.

6. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.

7. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.

8. The next cycle, following the preemption event, shall use the correct, initially programmed values.

9. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.

10. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.

11. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.

12. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.

13. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

14. In the event of a power outage, light output from the LED modules shall cease instantaneously.

15. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.

16. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Electrical.

1. Maximum power consumption for LED modules is 29 watts.

2. The measured chromaticity shall remain unchanged over the input line voltage range listed of 80 VAC to 135 VAC.

Basis of Payment. This item shall be paid for at the contract unit price EACH for PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, of the type specified, which shall be payment in full for furnishing the equipment described above including LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of faces and the method of mounting.

SPECIAL PROVISION
FOR
TRAFFIC SIGNAL BACKPLATE

The furnishing and installation of this item shall meet the requirements of Section 882 and 1078.03 of the Standard Specifications, except as follows:

Backplates shall be aluminum and louvered with a minimum thickness of 0.05 inch (1.3 mm).

The surface of the backplate shall provide openings (louvers) to allow wind to penetrate and thereby reduce the wind loading on the mast arm and pole. The louver openings shall cover a minimum of twenty (20) percent of the surface area of the backplate. The louvers shall be designed not to deter the purpose of the backplate, which is to shield the signal lens from sunlight. The louvers shall be spaced symmetrically on the backplate in such a way as not to adversely affect its structural integrity.

When more than one backplate is mounted on a pole or post, their louvered symmetry shall be the same.

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the manufacturer's recommendations. The retro reflective sheeting shall be installed under a controlled environment at the manufacturer/supplier before shipment to the contractor. The aluminum backplate shall be prepared and cleaned, following recommendations of the retro reflective sheeting manufacturer.

The reflective backplate shall not contain louvers.

Basis of Payment. This work will be paid for at the contract unit price EACH for TRAFFIC SIGNAL BACKPLATE, of the type specified , which price shall be payment in full for furnishing and installing the traffic signal backplate complete.

SPECIAL PROVISION
FOR
TRAFFIC SIGNAL POST AND PEDESTRIAN PUSHBUTTON POST

The furnishing and installation of this item shall meet the requirements of Sections 106.01, 875, 876, 1077.01 and 1077.02 of the Standard Specifications, except as follows:

All posts (steel), bases (cast iron), and related mounting hardware shall be hot-dipped galvanized in accordance with AASHTO M 111. A magnetic field tester may be utilized at any time to determine the thickness of galvanization. Average galvanization thickness shall be 2.0 oz. per square foot and minimum thickness shall be 1.8 oz. per square foot. The Contractor shall use a fabric post tightener to attach the post to the base. If the galvanization on the post is removed using a chain post tightener exposing bare metal, the post shall be rejected and replaced with a new post.

All iron and steel products, which are to be incorporated into work shall be domestically manufactured or produced and fabricated. The contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic-source requirements.

If the fabricator elects to cut and thread the post after the galvanization process, the bare metal shall immediately be cleaned to remove all cutting solvents and oils, then sprayed with two (2) coats of "Brite Zinc" galvanized compound manufactured by Brite Products, or an approved equal. Any scratches shall be repaired with "Brite Zinc". If the Department approves painting, powder coating by the manufacturer will be required over the galvanizing.

Bases shall be cast iron and octagonal in shape, approximately 15 inches (375 mm) high and 16 inches (400 mm) across the flat sides at the bottom. All bases shall be designed to accept four (4) 5/8" (15.6 mm) diameter anchor bolts evenly spaced in a 12-1/2" (312 mm) diameter circle.

Welded extensions onto the post shall not be permitted.

Posts are to erected plumb and no shims are allowed between the bottom of the base and the foundation.

When a new post is installed on an existing foundation, the foundation shall be plumed before the post is installed. It shall not be paid for separately but shall be included in cost for Traffic Signal Post or Pedestrian Push-Button Post.

Basis of Payment. This work will be paid for at the contract unit price EACH for TRAFFIC SIGNAL POST, GALVANIZED STEEL, of the length specified or PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE I or TYPE II, which price shall be payment in full for furnishing and installing the traffic signal post, base, foundation for pedestrian post, nuts and washers, and pipe cap complete.

SPECIAL PROVISION
FOR
STEEL MAST ARM ASSEMBLY AND POLE AND/OR STEEL COMBINATION MAST ARM ASSEMBLY AND POLE

The furnishing and installation of a steel mast arm assembly and pole and/or steel combination mast arm assembly and pole shall meet the requirements of Section 106.01, 877 and 1077.03 of the Standard Specifications, Plans, and the Standard Drawings for Mast Arm Assembly and Pole, except as follows:

All iron and steel products, which are to be incorporated into work shall be domestically manufactured or produced and fabricated. The contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

The steel mast arm assembly and pole and steel combination mast arm assembly and pole shall consist of a traffic signal mast arm, a Luminaire mast arm or davit (for combination pole only), a pole, and a base, together with anchor rods and other appurtenances. The configuration of the mast arm assembly, pole, and base shall be according to the details shown on the plans.

The mast arm assembly and pole, and combination mast arm assembly pole shall be designed for the loading shown on the Highway Standards or elsewhere on the plans whichever is greater. The design shall be according to AASHTO "Standard Specification for Structural Supports for Highway signs, Luminaries And Traffic Signals" 1994 edition for 80 mph (130km/hr) wind velocity.

However, the arm to pole connection for tapered signal and Luminaire arms shall be according to the "ring plate" detail as shown in Figure 11-1(f) of the 2002 Interim, to the AASHTO to "Standard Specification for Structural Supports for Highway Signs, Luminaire and Traffic Signals" 2001 4th edition.

Prior to the final acceptance of any steel mast arm assembly and pole and/or steel combination mast arm assembly and pole, the Contractor must furnish to the Engineer a certified, notarized mill analysis of the material used in the steel mast arm assembly and pole and/or steel combination mast arm assembly and pole complete including any other requirements in the Special Provision or Specifications.

The steel mast arm assembly and pole and/or steel combination mast arm assembly and pole furnished shall conform to the Standard Drawings for Mast Arm Assembly and Pole. The traffic signal mast arms shall be of one-piece construction, unless otherwise approved by the Engineer. All poles shall be galvanized.

All bolts on the mast arm assembly and pole and foundation to have a minimum exposure of at least one thread outside the nut when fully tightened.

The components of a steel mast arm assembly and pole and/or steel combination mast arm assembly and pole shall be assembled and erected in accordance with the details shown on the plans. The pole shall be erected vertically on a concrete foundation. The Contractor shall furnish

and install leveling and locking nuts and required washers for mounting and plumbing the pole on the anchor bolts. Prior to the approval of the installation, the Contractor shall brush or spray on two (2) coats of "Brite Zinc" galvanized compound to any scratched areas. The pole shall be grounded to a ground rod in accordance with the details shown on the plans.

The base of the mast arm pole shall be protected by a galvanized steel or extruded aluminum shroud for protection of the mast arm pole base plate similar to the dimensions detailed in the "District 1 Standard Traffic Signal Design Details." The shroud shall be of sufficient strength to deter pedestrian and vehicular damage. The shroud shall allow air to circulate throughout the mast arm but not allow manifestation of insects or other animals and such that it is not hazardous to probing fingers and feet. All mounting hardware shall be stainless steel. The Shroud shall not be paid for separately but shall be included in the cost of the mast arm assembly and pole.

The steel mast arm assembly and pole and/or steel combination mast arm assembly and pole shall be designed to support signal heads, signs, illuminated signs, luminare, camera and other attachments as shown on the plans. Refer to the Standard Drawings for Mast Arm Assembly and Pole for design loadings and projected area with wind load based on an 80 mile per hour (130 km/h) wind velocity plus 30 percent gust factor.

Structural Steel Grade. The mast arm and pole shall be fabricated according to ASTM A 595, Grade A or B, ASTM A 572 Grade 55, or ASTM A 1011 Grade 55 HSLAS Class 2. The base and flange plates shall be of structural steel according to AASHTO M 270 Grade 50 (M 270M Grade 345). Luminaire arms and trussed arms 15 ft (4.5 m) or less shall be fabricated from one steel pipe or tube size according to ASTM A 53 Grade B or ASTM A 500 Grade B or C. All mast arm assemblies, poles, and bases shall be galvanized according to AASHTO M 111.

Fabrication. The design and fabrication of the mast arm assembly, pole, and base shall be according to the requirements of the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals published by AASHTO. The mast arm and pole may be of single length or sectional design. If section design is used, the overlap shall be at least 150 percent of the maximum diameter of the overlapping section and shall be assembled in the factory.

The manufacturer will be allowed to slot the base plate in which other bolt circles may fit, provided that these slots do not offset the integrity of the pole. Circumferential welds of tapered arms and poles to base plates shall be full penetration welds.

Shop Drawing Approval. The contractor shall submit detailed drawings showing design materials, thickness of sections, weld sizes, and anchor rods to the Engineer for approval prior to fabrication. These drawings shall be at least 11X17 in. (275X425 mm) in size and of adequate quality for microfilming. All product data and shop drawings shall be submitted in electronic form on CD-ROM.

Anchor Rods. The anchor rods shall be ASTM F 1554 Grade 105, coated by the hot-dip galvanizing process according to AASHTO M 232, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and have a bend at the other end. The first 12 in. (300 mm) at the threaded end shall be galvanized. Two nuts, one lock washer, and one flat washer shall be furnished with each anchor rod. All nuts and washers shall be galvanized.

In addition to the signal loading, the steel mast arm assembly and pole, and/or steel combination mast arm assembly and pole shall be structurally adequate to support a maximum of two (2) sign panels 30" x 72" (750 mm x 1,800 mm) in size mounted back to back, one LED street sign 96 5/8" x 22 5/16" with 92 pounds and one (1) sign panels 30" x 24" (750 mm x 600 mm) in size mounted from 3 feet (900 mm) from end of the mast arm. The actual size and number of the sign panel(s) to be furnished and installed and the details of mounting shall be as shown on the County Standard Drawing of "ILLUMINATED STREET NAME SIGN MOUNTING DETAIL".

Signs attached to poles or posts (such as mast arm signs) shall have mounting brackets and sign channels which are equal to and completely interchangeable with those used by the Department. Signfix Aluminum Channel Framing System is currently recommended, but other brands of mounting hardware are acceptable based upon the Department's approval.

Basis of Payment. This work will be paid for at the contract unit price EACH for STEEL MAST ARM ASSEMBLY AND POLE, and/or STEEL COMBINATION MAST ARM ASSEMBLY AND POLE of the size(s) specified which price shall be payment in full for furnishing and installing the steel mast arm assembly and pole and/or steel combination mast arm assembly and pole, anchor bolts, nuts, washers, and connected to a ground rod as shown on the Standard, complete.

SPECIAL PROVISION
FOR
TRAFFIC ACTUATED CONTROLLER
TRAFFIC ACTUATED CONTROLLER WITH CABINET
INDUCTIVE LOOP DETECTOR

The furnishing and installation of a traffic actuated controller and an inductive loop detector shall meet the requirements of Section 857, 885, 1073, 1074.03 and 1079.01 of the Standard Specifications, except as revised with this Special Provision.

The new and/or temporary controller and all control equipment shall be of a manufacturer that is approved by this Department. The manufacturer shall have a representative located in the six (6) county Chicago areas. The Controller shall be NTCIP compliant NEMA TS2 type 1 Econolite ASC/3S-1000 or Eagle/Siemens M50 unless specified otherwise on the plans or elsewhere on these specifications. The controller shall be the most recent model and software version supplied by the manufacturer at the time of the approval and include the standard data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all pre-emption events.

The contractor shall contact CCDOTH and coordinate to the installation of a standard voice-grade dial-up telephone line to the FULL-ACTUATED CONTROLLER AND CABINET, RAILROAD as called for on the traffic signal installation plans. If the traffic signal installation is part of a traffic signal system, a telephone line is usually not required, unless a telephone line is called for on the traffic signal plans. The contractor shall follow the requirements for the telephone service installation as contained in the current traffic signal special provisions under Master Controller.

The malfunction monitor unit shall be an EDI Model MMU-16E or equivalent.

Contracts requiring new cabinets shall provide for rack mounted detector amplifier cards. Detector amplifiers shall be provided with LCD displays with loop frequency, inductance and change of inductance readings. When calling detectors are called for on the plans, the amplifier shall have the capability of providing vehicle calls to a particular phase when that phase is not in use.

Cabinets shall be designed for NEMA TS2 Type 1 operation. The cabinet shall provide a minimum of sixteen (16) pre-wired load bays for eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation and pedestrian pushbutton isolation. Isolation cards will be required for all pedestrian pushbuttons.

- Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- Surge Protection – Plug-in type EDCO SHA-1250 or Atlantic/Pacific approved equal.
- BIU – Containment screw required.
- Transfer Relays – Solid state or mechanical flash relays are acceptable.
- Switch Guards – All switches shall be guarded.

- The controller cabinet must have two (2) porcelain light fixtures with metal cage protection controlled by a separate toggle switch, and a thermostat at County cabinet only.
- Plan & Wiring Diagrams – 12" x 16" (305 mm x 406 mm) or 22" x 34" (560 mm x 860 mm) moisture sealed container attached to door.
- Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation.
- Field Wiring Labels – All field wiring shall be labeled.
- Field Wiring Termination – Approved channel lugs required.
- Power Panel – Provide a nonconductive shield.
- Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- Police Door – Provide wiring and termination for plug in manual phase advance switch.
- Railroad Pre-Emption Test Switch – Eaton 8830K13 SHA 1250 or equivalent.
- Heating – One (1) 200 watt, thermostatically-controlled, Hoffman electric heater, or approved equivalent at IDOT intersection only.
- Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a wall switch. Relume Traffic Control Box LED Panels and power supply or approved equivalent.
- The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch (38mm) deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 24 inches (610mm) wide.
- When "Full Actuated Controller and Cabinet, Type Super P" is used, the cabinet housing shall have the following nominal outside dimensions: a width of 59 in., a depth of 26 in., and a height of 57 in. The cabinet shall have a integrated Uninterruptible Power Supply compartment which holds the backup system and batteries. The battery portion of the cabinet shall be separated from the controller equipment portion of the cabinet by 1/8 inch thick aluminum 5052-H32. The bottom of the battery portion of the cabinet shall be 1/8 inch thick aluminum 5052-H-32. The battery cabinet door shall meet the same specifications as the controller portion except that the door hinge is 14 gage stainless steel with 0.12 stainless steel pin. The Battery compartment has three adjustable shelves, full width, 12" deep standard.,
- A GE KeySafe Slimline Pushbutton Lockbox or approved equal shall be provided in the cabinet.

Controller and cabinet interconnected with railroads shall be new and NEMA TS2 type 1. In addition to the aforementioned equipment specifications, the following shall apply to railroad interconnected equipment:

Controller shall comply with Article 1073.01 as amended in these Traffic Signal Special Provisions.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1 design.

A method of monitoring and/or providing redundancy to the railroad preemptor input to the controller shall be included as a component of the Railroad, Full Actuated Controller and Cabinet installation and be verified by the traffic signal equipment supplier prior to installation.

Railroad interconnected controllers and cabinets shall be supplied and assembled only by an approved IDOT closed loop traffic signal equipment supplier. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

Basis of Payment. This work will be paid for at the contract unit price EACH for INDUCTIVE LOOP DETECTOR, and/or FULL-ACTUATED CONTROLLER AND CABINET or RAILROAD, FULL ACTUATED CONTROLLER AND CABINET (if required) of the type specified, which price shall be payment in full for furnishing and installing the inductive loop detector complete with all harnesses and connections for proper operation, and/or for furnishing and installing the controller complete, including malfunction monitor unit, load switches, flashers, flash transfer relays, etc. in a new cabinet or an existing cabinet as specified, with the necessary connections for proper operation.

SPECIAL PROVISION
FOR
MASTER CONTROLLER

The installation consist of a master controller shall meet Section 860 of the Standard Specifications except as revised with this Special Provision.

The Manufacturer of the master controller shall be as approved by the Agency that will maintain the closed loop system. Cook County currently approves only Econolite and Eagle NEMA TS2 Type 1 closed loop systems. If some other Agency will be maintaining the closed loop system the Contractor will contact that Agency to determine what Brand of Equipment is acceptable. The latest model and software version of master controller shall be supplied.

Functional requirements in addition to those in section 860, 863 and 1073.04 of the Standard Specification include:

- The system commands shall consist of, as a minimum, six (6) cycle lengths, five (5) offsets, three (3) splits, and four (4) special functions. The system commands shall also include commands for free or coordinated operation.

- Traffic Responsive operation shall consist of the real time acquisition of system detector data, data validation, and the scaling of acquired volumes and occupancies in a deterministic fashion so as to cause the selection and implementation of the most suitable traffic plan.

- Full duplex communication between the master and its local controllers is recommended, but at this time not required. The data rate shall be 1200 baud MINIMUM and shall be capable of speeds to 38,400 or above as technology allows. The controller, when installed in an Ethernet topology, may operate non-serial communications.

- The cabinet shall be provided with a Siecor CAC 3000, or equivalent, Outdoor Network Interface for termination of the telephone service. It shall be mounted to the inside of the cabinet in a location suitable to provide access for termination of the telephone service. The CAC 3000 shall be equipped with a standard Three Electrode Heavy Duty Gas Tube Surge Arrestor.

- The cabinet shall be equipped with a 9600 baud, auto dial/auto answer, modem. It shall be a US Robotics 33.6K baud rate or equal.

- Each master shall be delivered with up to three (3) complete sets of the latest edition of registered remote monitoring software with full manufacturer's support. Each set shall consist of software on CD, DVD or other suitable media approved by the Engineer, and a bound set of manuals containing loading and operating instruction. One copy of the software and support data shall be delivered to the Agency in charge of system operation. One of these three sets will be provided to the Maintaining Agency's Signal Maintenance Contractor for his use in monitoring the system.

- The approved manufacturer of equipment shall loan CCDOTH one (1) master controller and two (2) intersection controllers of the most recent models and the newest software version to be used for instructional purposes in addition to the equipment to be supplied for the contract.

- The Master Controller shall provide a background timer which will prevent phases from being skipped during program changes.

- The Contractor shall arrange to install a standard voice-grade dial-up telephone line to the master controller. This shall be accomplished through the following process:

- As soon as practical or within one week after the contract has been awarded, the Contractor shall contact (via phone) the CCDOTH Design Engineer at (312) 603-1730 to request a phone installation.

- A follow-up fax transmittal to the CCDOTH Design Engineer at (312) 603-9956 with all required information pertaining to the phone installation is required from the Contractor as soon as possible or within one week after the initial request has been made. The required information to be supplied on the fax shall include (but not limited to): A street address for the new traffic signal controller (or nearby address); what type of telephone service is needed. The name and number of the Contractor's employee for the telephone company to contact regarding site work and questions. The phone line installation will then be requested from the County Central Services Office.

- The usual time frame for the activation of the phone line is 8 weeks after the CCDOTH Design Engineer has received the Contractor supplied fax. It is, therefore, imperative that the phone line conduit and pull-string be installed by the Contractor in anticipation of this time frame. On jobs which include roadway widening in which the conduit cannot be installed until this widening is completed, the Contractor will be allowed to delay the phone line installation request until a point in time that is 8 weeks prior to the anticipated completion of the traffic signal work. The contractor shall provide the CCDOTH Design Engineer with an expected installation date considering the 8 week processing time.

- The telephone line shall be installed and activated one month before the system final inspection.

- All costs associated with the telephone line installation and activation (not including the contract specified conduit installation between the point of telephone service and the traffic signal controller cabinet) shall be paid for by the CCDOTH Central Services Office (i.e., this will be a CCDOTH phone number not a Contractor phone number).

Basis of Payment. The master controller shall be paid for at the contract unit price EACH for MASTER CONTROLLER, which price shall be payment in full for furnishing and installing the master controller complete with necessary connections for proper operation.

SPECIAL PROVISION
FOR
DETECTOR LOOP

This work shall consist of furnishing and installing detector loop in accordance with the requirements of Section 886 and 1079 of the Standard Specifications, except as follows:

Description.
This work shall consist of furnishing and installing a detector loop in the pavement.

Procedure.
A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall have the proposed loop locations marked and contact the CCDOTH Design Engineer at (312) 603-1730 to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the portland cement concrete surface, using the same notification process as above.

Installation.
Each loop lead-in shall be placed in a separate conduit from edge of pavement to handhole. Loop detectors shall be installed according to the requirements of the "District 1 Standard Traffic Signal Design Details". Saw-cuts (homerun on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plans. Spacing between the lead-ins (holes drilled in the pavement) shall not be less than one (1) foot (300 mm) and shall be located one (1) foot (300 mm) from the edge of pavement. Loop lead-in wires should be twisted to provide a minimum of five (5) turns per foot (fifteen [15] turns per meter) from the loop to the splice.

The cable splice connection of the detector loop and the lead-in cable to the controller shall conform to Section 873 of the Standard Specifications or the requirements set forth in the "District 1 Standard Traffic Signal Design Details".

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit PLFIM water proof tag or approved equal secured to each wire with nylon ties. The lead-in wire, including all necessary connections for proper operation, from the edge of pavement to the handhole shall be incidental to the price of the detector loop.

The detector loop cable insulation shall be labeled with the cable specifications.

Resistance to ground shall be a minimum of 100 megohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be greater than 5.

Type 1:

- All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement or the curb shall be cut with a 1/4" (6.3 mm) x 4" (100 mm) long sawcut to mark the location of each loop lead-in.

- Loop sealant shall be a two-component thixotropic chemically cured polyurethane either Chemque Q-Seal 295, Perol Elastic Cement A/C Grade or an approved equal. The sealant shall be installed 1/8" (3 mm) below the pavement surface, if installed above the surface the overlap shall be removed immediately.

- Detector loop measurements shall include the sawcut and the length of the loop lead-in leading to the edge of pavement. The lead-in wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be incidental to the price of the detector loop. Unit duct, trench and backfill, and drilling of pavement or handholes shall be incidental to detector loop quantities.

- The corners of all loops shall be core drilled with a two (2) inch (50 mm) bit. All joints and cracks in the pavement that the loop crosses must be core drilled.

Preformed:

This work shall consist of furnishing and installing a rubberized heat resistant preformed traffic signal loop in accordance with the Standard Specifications, except for the following:

- Preformed detector loops shall be installed in new pavement constructed of portland cement concrete using mounting chairs or tied to re-bar or the preformed detector loops may be placed in the sub-base. Loop lead-ins shall be extended to a temporary protective enclosure near the proposed handhole location. The protective enclosure shall provide sufficient protection from other construction activities and may be buried for additional protection.

- Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. Non-metallic coilable duct, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.

- Preformed detector loops shall be factory assembled with ends capped and sealed against moisture and other contaminants. Homeruns and interconnects shall be pre-wired and shall be an integral part of the loop assembly. The loop configurations and homerun lengths shall be assembled for the specific application. The loop and homerun shall be constructed using 11/16" (17.2 mm)outside diameter (minimum), 3/8" (9.5 mm) inside diameter (minimum) Class A oil resistant synthetic cord reinforced hydraulic hose with 250 psi (1,720 kpa) internal pressure rating or a similar sized XLPE cable jacket. Hose for the loop and homerun assembly shall be one continuous piece. No joints or splices shall be allowed in the hose except where necessary to connect homeruns or interconnects to the loops. This will provide maximum wire protection and loop system strength. Hose tee connections shall be heavy duty high temperature synthetic rubber. The tee shall be of proper size to attach directly to the hose, minimizing glue joints. The tee shall have the same flexible properties as the hose to insure that the whole assembly can conform to pavement movement and shifting without cracking or breaking. For XLPE jacketed preformed loops, all splice connections shall be soldered, sealed,

and tested before being sealed in a high impact glass impregnated plastic splice enclosure. The wire used shall be #16 THWN stranded copper.

The number of turns in the loop shall be application specific. Homerun wire pairs shall be twisted a minimum of four turns per foot. No wire splices will be allowed in the preformed loop assembly. The loop and homeruns shall be filled and sealed with a flexible sealant to insure complete moisture blockage and further protect the wire. The preformed loops shall be constructed to allow a minimum of 6.5 feet of extra cable in the handhole. Six foot (1.8 m) round loop(s) may be substituted for six foot (1.8 m) by six foot (1.8 m) square loop(s) and shall be paid for as 24 feet (7.2 m) of detector loop.

Method of Measurement.

This work will be measured for payment in feet (meters) in place. Type I detector loop will be measured along the sawed slot in the pavement containing the loop and lead-in, rather than the actual length of the wire. Preformed detector loops will be measured along the detector loop and lead-in embedded in the pavement, rather than the actual length of the wire.

Basis of Payment. This work will be paid for at the contract unit price per FOOT (METER) of DETECTOR LOOP, TYPE I or PREFORMED DETECTOR LOOP, as specified in the plans, which price shall be payment in full and for furnishing, installing and testing the Detector Loop and all related connections for proper operation.

SPECIAL PROVISION
FOR
VIDEO DETECTION SYSTEM FOR TEMPORARY TRAFFIC SIGNAL INSTALLATION

This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle traffic. In addition to the requirements described below, the video detection system shall meet or exceed the specifications of the Autoscope or the Iteris Vantage Plus systems.

1) General
   a) System Hardware
      The video detection system shall consist of one to six video cameras, a video detection processor (VDP) capable of processing from one to six video sources, and a pointing device. A minimum of a nine (9) inch in-cabinet video monitor is required for view and/or programming detector zones.
   b) System Software
      The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 144 detection zones shall be available.

2) Functional Capabilities
   a) The VDP shall process video from up to 6 video sources simultaneously. The sources can be video cameras or S-VHS video tape players. The video shall be input to the VDP in R5170 format and shall be digitized and analyzed in real time. A separate microprocessor for each video input shall be used.
   b) The VDP shall detect the presence of vehicles in up to 24 detection zones per camera. A detection zone shall be approximately the width and length of one car.
   c) Detection zones shall be programmed via an on board menu displayed on a video monitor and a pointing device connected to the VDP. The menu shall facilitate placement of the detection zones quickly and easily.
   d) The VDP shall store up to three different detection zone patterns. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device.
   e) The VDP shall detect vehicles in real time as they travel across each detection zone.
   f) The VDP shall have an RS232 port for communications with an external computer. The VDP R5232 port shall be multi-drop capable.
   g) The VDP shall accept new detection patterns from an external computer through the RS232 port when the external computer uses the correct communications protocol for downloading detection patterns.
   h) The VDP shall send its detection patterns to an external computer through the RS-232 port when requested when the external computer uses the correct communications protocol for uploading detection patterns.

3) Vehicle Detection
   a) Up to 144 detection zones shall be supported and each detection zone can be sized to suit the site and the desired vehicle detection region.

b) Detection zones shall be capable of being Or'ed or ANDed together to indicate vehicle presence on a single detector output channel.
c) Placement of detection zones shall be done by using only a pointing device, and a graphical interface built into the YDP and displayed on a video monitor, to draw the detection zones on the video image from each video camera.
d) Up to 3 detection zone patterns shall be saved for each camera within the VDP memory and this memory shall prevent loss during power outages.
e) The selection of the detection zone pattern for current use shall be done through a menu. It shall be possible to activate a detection zone pattern from VDP memory and have that detection zone pattern available within 1 second of activation.
f) When a vehicle is detected crossing a detection zone, the comers of the detection zone will flash on the video overlay display to confirm the detection of the vehicle.
g) Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather conditions (e.g. rain, snow, or fog) which reduce visibility. Detection accuracy is dependent upon camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality. See section 5.12 for recommended camera placement.
h) The VDP shall provide 32 channels of detection through either a NEMA TS 1 port or a NEMA TS2 port.
i) The VDP shall provide dynamic zone reconfiguration (DZR). DZR enables normal operation of existing detection zones when one zone is being added or modified during the setup process. The VDP shall output a constant call on any detector channel corresponding to a zone being modified.
j) Detection zones shall be directional to reduce false detection from objects traveling in directions other than the desired direction of travel in the detection area.
k) Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.
l) Detection zone setup shall not require temporal information such as date and time.
m) The VDP shall process the video input from each camera using a separate microprocessor at 30 frames per second.

n) The VDP shall output a constant call for each enabled detector output channel if a loss of video signal occurs. The VDP shall output a constant call during the background learning period.

Basis of Payment. Payment in full for furnishing, installing and setting up the video detection system, with necessary connections and programming for proper operation shall be included in the pay item for TEMPORARY TRAFFIC SIGNAL INSTALLATION.

SPECIAL PROVISION
FOR
PEDESTRIAN PUSH-BUTTON

The installation of a Pedestrian Pushbutton shall meet Section 888 and 1074.02 of the Specifications except as revised with this Special Provision.

This item shall consist of furnishing and installing a push-button assembly which shall be ADA compliant, highly vandal resistant, be pressure activated with minimal movement and can not be stuck in a closed or constant call position. A red latching LED and audible tone shall be provided for confirmation of an actuation call.

The normal state of the LED shall be off. When the push button is pressure activated, the LED shall be lighted and remain on until the beginning of the walk phase. The latching relay shall be mounted in the signal cabinet, controlling two pedestrian phases.

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

The actuator shall be stainless steel with a solid state electric PIEZO switch rated for a minimum of 20 million cycles with no moving plunger or moving electrical contacts. The operating voltage shall be 12-24V AC/DC.

Stations shall be designed to be mounted directly to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9 x 15 inch sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9 x 12 inch sign with arrow(s).

Pedestrian push buttons and stations shall be mounted directly to poles and/or posts as shown on the plans and shall be fully accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details

Basis of Payment. This work shall be paid for at the contract unit price EACH for PEDESTRIAN PUSH-BUTTON, which price shall be payment in full for furnishing and installing the pushbutton assembly complete.

SPECIAL PROVISION
FOR
CONDUIT

The installation of a conduit shall meet the requirements of Sections 810, 811 of the Standard Specifications, except as revised with this Special Provision.

Pavement, driveways, and curbs shall not be removed to install electrical conduits.

All conduit installed underground shall have a minimum depth of two feet six inches (2'-6" [760 mm]) except under railroad tracks where the conduit shall be a minimum of five feet (5' [1.52 m]) as measured to the outside diameter of the conduit on the top side.

All conduit splices shall be solid threaded couplings. Conduit terminating in junction and pull boxes shall be terminated with hubs, integral box hubs, or integral box bosses.

Directional boring or plowing will be allowed in place of trenched and backfilled or pushed conduit, but no additional compensation will be allowed.

All conduit attached to a structure shall have a minimum of one (1) expansion joint placed within the length of the attached conduit. At each end of the structure the Contractor shall install a weatherproof galvanized cast iron box with a minimum size of 8" (200 mm) x 8"(200 mm) x 6" (150 mm) deep. The installation of these two (2) boxes and any required expansion joints shall be considered incidental to the unit price for conduit attached to structure.

Basis of Payment. This work will be paid for at the contract unit price per FOOT (METER) for UNDERGROUND CONDUIT or CONDUIT ATTACHED TO STRUCTURE, of the type and size specified, which price shall be payment in full for furnishing and installing the conduit and fittings complete. Trench and Backfill will be paid for separately.

SPECIAL PROVISION
FOR
COILABLE NON-METALLIC CONDUIT

This work shall consist of furnishing and installing empty Coilable Non-Metallic Conduit (CNC) in trench of the type and size specified. The installation of CNC shall meet all applicable requirements of the Standard Specifications of Section 810 and 811. All installations of CNC shall be incidental to the contract and not paid for separately. polyethylene duct shall be used for all detector loop raceways to handholes. All duct shall be placed a minimum depth of 30 inches (750 mm) or as shown on the contract plans or standard details.

The conduit shall be a polyethylene duct which is intended for underground use and which can be manufactured and coiled or reeled in continuous transportable lengths and uncoiled for further processing and/or installation without adversely affecting its properties of performance. The conduit and its manufacture shall conform to the standards of NEMA Publication TC7, ASTM Standard Specifications D3485 and NEC Article 353.

On temporary traffic signal installations with detector loops, CNC shall be used for detector loop raceways from the saw-cut to 10 feet (3 m) up the wood pole, unless otherwise shown on the plans.

Material. The conduit shall be manufactured from high density polyethylene complying with ASTM D1248, Type III, Class C and the requirements listed in Table 2-1 of NEMA TC7. Submittal information shall demonstrate compliance with the details of these requirements.

Construction. Conduit dimensions shall conform to the standards listed in Table 2-2 of NEMA TC7. Submittal information shall demonstrate compliance with these requirements.

As specified in NEMA TC7, the conduit shall be clearly and durably marked at least every 10 feet (3 meters) with the material designation (HDPE for high density polyethylene), nominal size of the conduit and the name and/or trademark of the manufacturer.

Freeze-up Test:. A ten foot length of the conduit bent into an upright "U" shape shall be filled with water and then placed in a low temperature cabinet and maintained at -20 degrees C for 24 hours. The conduit shall not crack or burst during the test.

Compression Test. The test shall be conducted on a six inch (150 mm) sample of the conduit. Samples are placed between six inch (150 mm) plates and compressed at the rate of one-half inch (12.5 mm) per minute until the distance between the plates is reduced by 50%, recording the load required to compress the conduit. The samples are then removed and allowed to stand for exactly 5 minutes. The load required to compress the sample shall be equal to or greater than that listed below and the conduit shall have returned to nor less than 85% of its original diameter at the end of the 5 minutes.

Nominal Size		Load
¾ inch.	20 mm	122 lbs.
1 inch.	25 mm	167 lbs.
1 ¼ inch.	30 mm	243 lbs.
1 ½ inch.	40 mm	297 lbs.
2 inch.	50 mm	387 lbs.

Tests. All of the tests referred to above and the applicable tests in the cited ASTM Standards shall be performed on the conduit at the manufacturer's plant and certified copies of the reports of the results of these tests shall be submitted to the Engineer prior to the installation of the CNC.

Basis of Payment.
All installations of CNC for loop detection shall be included in the contract and not paid for separately.

SPECIAL PROVISION
FOR
ELECTRIC CABLE

The installation of an electric cable shall meet the requirements of Section 873, 1088.01 and 1076.04 of the Standard Specifications and District One Standard Traffic Signal Design Details with the addition as the following:

The jacket for electric cable in this contract shall be of the polyvinyl chloride type meeting the requirements of IMSA 19-1. (Traffic signal cable shall be solid copper No. 14 unless otherwise specified in the plans or these Special Provisions). No other type of jacket will be allowed, except as follows:

The service cable may have a XLP jacket. Service cable may be single or multiple conductor cable.

Communications and lead-in cable shall have a gray or chrome jacket.

Electric cable sized No. 12 AWG and smaller shall be solid.

The length of cable slack shall be in accordance with District One Standard Traffic Signal Design Details.

The cable splice connection of the detector loop and the lead-in cable to the controller shall conform to Section 873 of the Standard Specifications or to the requirements set forth in the "District 1 Standard Traffic Signal Design Details ".

Heat shrink splices shall be used according to "District 1 Standard Traffic Signal Design Details".

Basis of Payment. This work will be paid for at the contract unit price per FOOT (METER) for ELECTRIC CABLE of the type, size and number of conductors as specified., which price shall be payment in full for furnishing the material and making all electrical connections and installing the cable complete, measured as specified.

SPECIAL PROVISION
FOR
FIBER OPTIC CABLE

The installation of a fiber optic electric cable and tracer cable shall meet the requirements of Section 817, 871 and 872 of the Standard Specifications, except as follows:

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 872.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be CSC FTWO12KST-W/O 12 Port Fiber Wall Enclosure or an approved equal. The fiber optic cable shall provide six (6) fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six (6) multimode fibers from each cable shall be terminated with approved mechanical connectors in the distribution enclosure. Fibers not being used shall be labeled "SPARE". Fibers not attached to the distribution enclosure shall be capped and sealed. A minimum of 13 feet (4 m) of extra slack cable shall be provided for the controller cabinet. The controller cabinet extra slack cable shall be stored as directed by the Engineer.

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, an XLP black insulated copper cable No. 14 AWG shall be pulled in the same conduit as the fiber optic cable. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. The tracer cable will be allowed to be spliced at the handholes only. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. All exposed surfaces of the solder shall be smooth.. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600v, minimum length 4" (100 mm) and with a minimum 1" (25 mm) coverage over the XLP insulation, underwater grade.

Basis of Payment. This work will be paid for at the contract unit price per FOOT (METER) for FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125 MM12F SM12F , which price shall be payment in full for furnishing the material (including connectors) and distribution enclosure and making all connections, splices and installing the cable complete, measured as specified. The tracer cable shall be paid for as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per FOOT (METER), which price shall include all associated labor and material for installation.

SPECIAL PROVISION
FOR
SYSTEM GROUND AND GROUNDING CABLE

This specification revises requirements of section 806 of the Standard Specifications to read:

General:

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the National Electrical Code. See IDOT District 1 traffic signal detail plan sheets for additional information.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable foundation or service installation pay item and will not be paid for separately. All steel ground rods shall be copper clad, a minimum of 10' (3.0 m), and ¾" (20mm) in diameter.

Testing shall be according to Section 801.13(a) (4) and (5).

a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.

b) The equipment grounding conductor shall be green color coded. The following is in addition to Section 801.04 of the Standard Specifications.
   1) Equipment grounding conductors shall be XLP insulated 600V No.6 gauge copper, unless otherwise noted on the plans, and bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
   2) Equipment grounding conductors shall be bonded, using a listed grounded connector (Burndy type KC/K2C, as applicable or approved equal), to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pushbutton posts, pull boxes, handhole frames and covers, conduits and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connected using a sized compression type copper sleeve, sealant tape and heat shrinkable cap. A listed electrical joint compound shall be applied to all conductor terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations. Bonding to existing handhole frames and covers shall be paid for separately.
   3) All metallic and non-metallic raceways containing traffic signal circuit runs shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
   4) Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full heat shrink shall be provided over individual conductor heat shrinks.

c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, listed pressure connectors, listed clamps or other approved listed means.

GROUNDING CABLE

The cable shall meet the requirements of Section 817.02(b) of the "Standard Specifications". Unless otherwise noted on the plans, Traffic Signal Grounding Conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

Basis of Payment. This work will be paid for at the contract unit price per FOOT (METER) for ELECTRIC CABLE IN CONDUIT, GROUNDING NO. 6, 1C, which price shall be payment in full for furnishing labor and material including grounding clamps, cable, splicing, exothermic welds, grounding connectors conduit grounding bushings, and hardware. All ground rods shall be incidental to the cost of associated items for Concrete Foundations and Service Installation.

SPECIAL PROVISION
FOR
GROUNDING EXISTING HANDHOLE FRAME AND COVER

Description. This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty Listed grounding compression terminal (Burndy type YGHA or approved equal). The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminates. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement. Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment. This work shall be paid for at the contract unit price EACH for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding handhole complete.

SPECIAL PROVISION
FOR
SERVICE INSTALLATION POLE MOUNTED

This specification revises requirements of section 805 of the Standard Specifications to read:

All installations shall meet the requirements of the details in the "District 1 Standard Traffic Signal Design Details" and applicable portions of the Specifications. The electrical service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

Materials.

1) General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.

2) The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch (2.03 mm) thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the manufacturer.

3) Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <5n seconds and operate within a range of –40C to +85C. The surge protector shall be UL 1449 Listed.

4) Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, otherwise noted on the plans, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.

5) Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.

6) Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.

7) The Contractor shall notify the Commonwealth Edison Marketing Representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Commonwealth Edison Marketing Representative has received service charge payments from the Contractor. Prior to contacting the Commonwealth Edison marketing representative for service connection, the service installation, controller cabinet and cable must be installed for inspection by Commonwealth Edison.

8) Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10' (3.0 meters) in length, and 3/4" (20 mm) in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation:

1) General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.

2) Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.

The Contractor must request in writing for service and/or service modification within ten (10) days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the Contractor and utility company to the County Design Engineer. The loading form to be sent to the utility company shall be furnished by the County Design Engineer. The service agreement and sketch shall be submitted for signature to the County Design Engineer.

The Commonwealth Edison contact phone number is 866-639-3532

Basis of Payment. This work will be paid for at the contract unit price EACH for SERVICE INSTALLATION, POLE MOUNTED, which shall be payment in full for furnishing and installing the service installation complete. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4" (20 mm) grounding conduit, ground rod, and pole mount assembly. Any charges by the utility company to provide electrical services to the service installation will be paid for in accordance with Article 109.05 of the Standard Specifications.

SPECIAL PROVISION
FOR
HANDHOLE

The installation of a handhole shall meet the requirements of Section 814 of the Standard Specifications, with the addition as the following:

All handholes shall be concrete poured in place against undisturbed earth. No pre-cast concrete handholes will be accepted.

The handholes shall have an inside dimension of 21-1/2" (549 mm) minimum. Frames and lid openings shall match this dimension.

The cover of the handhole shall be labeled "TRAFFIC SIGNALS" with legible raised letters.

All conduits will enter the handhole at a depth of 30" (760 mm) except for the conduits between the curb and handhole for detector loops when the handhole is less than five (5) feet (1.52 m) from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16" (15.875 mm) diameter stainless bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole frame and cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches (300 mm).

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2 inch (12.7mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (150 mm). Hooks shall be placed a minimum of 12 inches (300 mm) below the lid or lower if additional space is required.

The French drain shall be constructed of crushed stone or gravel, Gradation CA 5 or CA 7, and according to Section 601 of the Standard Specifications.

Basis of Payment. This work will be paid for at the contract unit price EACH for HANDHOLE, HEAVY-DUTY HANDHOLE, or DOUBLE HANDHOLE, which price shall be payment in full for all necessary excavating, backfilling, disposal of unsuitable materials, and furnishing all materials within the limits of the handhole.

SPECIAL PROVISION
FOR
CONCRETE FOUNDATION

The installation of a concrete foundation shall meet the requirements of Section 106.01, 878 and 1006.09 of the Standard Specifications, the Standard Drawing for Concrete Foundations and District One Standard Traffic Signal Design Details with the addition as the following:

All anchor bolts shall be according to Section 1006.09, except all anchor bolts shall be hot dipped galvanized a minimum of 12 in. (300 mm) from the threaded end.

All iron and steel products, which are to be incorporated into work shall be domestically manufactured or produced and fabricated. The contractor shall obtain from the iron or steel producer and/or fabricator, in addition to the mill analysis, a certification that all iron or steel materials meet these domestic source requirements.

All Type "A" foundations shall be a minimum depth of 48 inches (1220 mm).

Concrete Foundations, Type "C" for Traffic Signal Cabinets with Uninterruptible Power Supply (UPS) cabinet installations shall be a minimum of 72 inches (1830 mm) long and 31 inches (790 mm) wide. All Type "C" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron in front of the Type IV or V cabinet shall be 36 in. x 48 in. x 5 in. (915 mm X 1220 mm X 130 mm). The concrete apron in front of the UPS cabinet shall be 36 in. x 67 in. x 5 in. (915 mm X 1700 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "D" for Traffic Signal Cabinets shall be a minimum of 48 inches (1220 mm) long and 31 inches (790 mm) wide. All Type "D" foundations shall be a minimum depth of 48 inches (1220 mm). The concrete apron shall be 36 in. x 48 in. x 5 in. (910 mm X 1220 mm X 130 mm). Anchor bolts shall provide bolt spacing as required by the manufacturer.

Concrete Foundations, Type "E" for Mast Arm and Combination Mast Arm Poles shall meet the current requirements listed in the Highway Standards.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives approval as to the depth of the foundation.

Basis of Payment: This work will be paid for at the contract unit price per FOOT (METER) of depth for:

CONCRETE FOUNDATION, TYPE A
CONCRETE FOUNDATION, TYPE C
CONCRETE FOUNDATION, TYPE D
CONCRETE FOUNDATION, TYPE E - 30" (750 mm) Dia.
CONCRETE FOUNDATION, TYPE E - 36" (900 mm) Dia.
CONCRETE FOUNDATION, TYPE E - 42" (900 mm) Dia.

which price shall be payment in full for all necessary excavating or drilling, back filling, disposal of unsuitable material, form work, ground rods and furnishing all materials within the limits of the foundation.

SPECIAL PROVISION
FOR
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

The removal of existing traffic signal equipment shall meet the requirements of Section 895.05 of the Standard Specifications, except as follows:

This work shall consist of removing the existing traffic signal equipment at an intersection as listed and as shown on the plans.

All equipment to be returned to an Agency shall be delivered by the Contractor to the Agency's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the Agency's Electrical Maintenance Contractor to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide 5 copies of a list of equipment that is to remain the property of the Agency, including model and serial numbers, where applicable. A list of equipment shall be signed by the Agency's Electrical Maintenance Contractor and fax to the County Engineer at (312) 603-9956. The Contractor shall also provide a copy of the contract plan or special provision showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned with these requirements, it will be rejected by the Agency's Electrical Maintenance Contractor. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the Agency's Electrical Maintenance Contractor indicating the items have been returned in good condition.

The traffic signal equipment which is to be removed and is to become the property of the Contractor shall be disposed of by them outside the right-of-way at their expense.

All equipment is to be disassembled so as to make for easy loading and storage into Agency stock as per the Engineers instructions.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

Basis of Payment. This work will be paid for at the contract unit price EACH for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT per intersection which price shall be payment in full for removing the equipment, and storing and/or disposing of it as required. The salvage value of the equipment retained by the Contractor shall be reflected in this contract unit price.

SPECIAL PROVISION
FOR
TEMPORARY TRAFFIC SIGNAL INSTALLATION

This item shall consist of furnishing, installing, maintaining and removing a temporary traffic signal installation at an existing intersection as shown on the plans and as described herein including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptible power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Traffic Management System. The energy charges for the operation of the traffic signal installation shall be paid for by others if the installation is replacing an existing signal. Otherwise charges shall be paid for under Section 109.05 of the Road Specifications.

Only an approved Equipment Vendor will be allowed to assemble the temporary traffic signal cabinet. Only controllers supplied by an approved Equipment Vendor will be approved for use on temporary traffic signals. Only an approved Closed Loop Equipment Vendor shall assemble and test a temporary railroad interconnected traffic signal cabinet. (Refer to Traffic Actuated Controller Specification). A representative of the approved control Equipment Vendor shall be present at the temporary traffic signal turn-on inspection.

All "railroad interconnected" temporary traffic signal controllers and cabinets shall be newly constructed. Only controllers and cabinets supplied by one of the IDOT District 1 approved closed loop Equipment Manufacturers will be allowed.

The installation of a temporary traffic signal installation shall meet the requirements of Section 890 and 801.11 of the Standard Specifications and the Standard Drawings, except as follows:

Equipment. The Contractor shall provide the following:

- All control equipment for the temporary traffic signals shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary traffic signal installations, all controllers shall be of the same manufacturer brand and model number with current software installed.

- Only controllers supplied by one of the Cook County Department of Transportation and Highways approved closed loop equipment manufacturers will be approved for use at temporary signal locations. Controllers used for temporary traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with the latest revision of monitoring software approved CCDOTH or District 1 installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two way traffic flow, such as bridge deck repairs, the temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length.

- All temporary traffic signal controllers shall meet or exceed the requirements of section 857 with regards to internal time coordination and preemption. The controller settings shall be set in the field as directed by the Engineer.

- All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications as modified herein. Only controllers and cabinet supplied by one of the IDOT district 1 approved closed loop equipment manufactures will be allowed.

- All temporary traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

- Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 and Cook County Traffic Signal Specifications for "Grounding of Traffic Signal Systems".

- All traffic signal sections and pedestrian signal sections shall be of the 12" (300 mm) type. Traffic signal section shall be LED with expandable view, unless otherwise approval by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary traffic signal plan or as directed by the Engineer. The Contractor shall furnish enough cable slack to relocate heads to any position on the span wire or at locations illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head. Signal heads shall be mounted no less than 17-ft and no more than 25-ft above the crown of the roadway. Signal heads with backplates shall be measured from the bottom of the backplate for minimum clearance and from the top signal section for maximum clearance.

Interconnect.

1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.

2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect shall be installed into the temporary controller cabinet as per the notes or details on the plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal

Installation shall be included in the item Temporary Traffic Signal Installation. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project.

3. Temporary wireless interconnect, complete. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This item shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnects system shall include the following components:
   a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
   b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
   c. Antennas (Omni Directional or Yagi Directional)
   d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
   e. Brackets, Mounting Hardware, and Accessories Required for Installation
   f. RS232 Data Cable for Connection from the radio to the local or master controller
   g. All other components required for a fully functional radio interconnect system

   All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in this item.

   The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

   The proposed master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

   The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the manufacturers recommendations.

   The following radio equipment is currently approved for use in Region One/District One:
   Encon Model 5100 and Intuicom Communicator II.

- All existing street name and intersection regulatory signs shall be removed from existing poles and relocated and securely fastened to the signal span wire. The signs shall be relocated to the new and/ or existing mast arm poles and posts at no extra cost. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer.

- If lighted signs are existing they shall be taken down and stored by the Contractor and reflective street name signs shall be installed on the temporary signal. The existing lighted sign shall be installed at the updated intersection as part of this pay item.

- All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It

shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. All light operated systems shall operate at a uniform rate of 14.035 Hz ±0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the County. All labor and material required to install and maintain the emergency vehicle pre-emption installation shall be included in the item Temporary Traffic Signal Installation.

- All temporary traffic signal installations shall have vehicle detection installed as shown on the plans, or as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as shown on the plans or as directed by the Engineer. All approaches shall have vehicular detection provided by Vehicle Detection System as shown on the plans or as directed by the Engineer. Video vehicle detection system shall be approved by CCDOTH prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. A representative of the approved control equipment vendor and the video detection vendor shall be present and assist the contractor in setting up and maintaining the video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item Temporary Traffic Signal Installation.

- Uninterruptible Power Supply. When called for in the plans, the UPS cabinet shall be mounted to the temporary traffic signal cabinet and meet the requirements of UNINTERRUPTIBLE POWER SUPPLY in Divisions 800 and 1000 of these specifications.

All labor and material required to comply with these requirements shall be considered incidental to the bid price of temporary traffic signal installation.

Maintenance Procedures. The Contractor shall perform the following maintenance procedures for each temporary installation designated to remain in operation during construction.

The Contractor Shall:

- Have on staff electricians with IMSA Level II certification to provide signal maintenance.

- Patrol and inspect each installation every two (2) weeks for proper alignment of signal heads, light detectors, lamp failures, and general operation of the traffic signal.

- Check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to insure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment.

- Provide immediate corrective action to replace burned out lamps or damaged sockets. When lamps are replaced, the reflector and lens shall be cleaned. All replacement lamps shall meet the approval of the Engineer. The Contractor shall repair or replace all defective equipment from any cause whatsoever.

- Maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

- Provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. A near right signal must also be maintained. When repairs at a signalized intersection require that the controller be disconnected and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer.

- The Contractor is required to place stop signs (R1-1-36) at each approach to the intersection as a temporary means of regulating traffic. At approaches, where a Yellow Flashing indication is necessary, as directed by the Engineer, stop signs will not be required. The Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of Stop Signs as specified herein. The Contractor shall maintain sufficient number of spare Stop Signs in stock at all times to replace Stop Signs which may be damaged or stolen.

- Replace defective or damaged equipment. If the proper sequence with full detection cannot be obtained immediately, a controller which will provide the proper sequence and full detection shall be installed within twelve (12) hours of removal of the original controller.

- The Contractor shall be required to maintain the existing type of equipment and sequence of operations during the period of time that the original control equipment is being overhauled

- Provide the Engineer with the names, addresses, and telephone numbers of two (2) persons qualified and assigned to the maintenance of the traffic signal installation. These people must be made available 24 hours per day, each and every day of the year for emergency calls by the Engineer.

- Respond to all emergency calls from the Department or municipality within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the State or County. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the temporary traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's or the County's Electrical Maintenance Contractor perform the maintenance work required. The State's or County's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor.

  When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as any physical work begins on the contract or any portion thereof until which time the temporary signals are functioning and the existing signals are removed. In addition, seven days prior to

assuming maintenance of the existing traffic signal installation(s) under this contract, the Contractor shall request that the Resident Engineer contact the Design Engineer at (312) 603-1730 for an inspection of the Installation(s). The Design Engineer shall establish a date and time of inspection and at this time shall check the installation to determine if any corrective work should be done by the State's or County's Electrical Maintenance Contractor or the Municipalities Contractor prior to the Contractor taking over maintenance of the installation. The Resident Engineer, Engineer, and the Contractor shall mutually agree on the date of maintenance transfer to the Contractor for this section.

Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Cook County Specifications and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this "Temporary Traffic Signal Installation" specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5 m), on temporary wood poles (Class 5 or better) of 45 feet (13.7 m), minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole as shown in the plans or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole or as directed by the Engineer. Video vehicle detection may be used in place of the detector loops as approved by the Engineer.

Temporary Portable Traffic Signal for Bridge Projects.

1. Unless otherwise directed by the Engineer, temporary portable traffic signals shall be restricted to use on roadways of less than 8000 ADT that have limited access to electric utility service, shall not be installed on projects where the estimated need exceeds ten (10) weeks, and shall not be in operation during the period of November through March. The Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract if the bridge project or Engineer requires temporary traffic signals to remain in operation into any part of period of November through March. If, in the opinion of the engineer, the reliability and safety of the temporary portable traffic signal is not similar to that of a temporary span wire traffic signal installation, the Contractor shall replace the temporary portable traffic signals with temporary span wire traffic signals noted herein at no cost to the contract.

2. The controller and LED signal displays shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification".

3. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.

4. General.
   a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
   b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with video detection or other approved methods of vehicle detection and traffic actuation.
e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicatble portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD). The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as nonoperating equipment according to Article 701.11.
g. Basis of Payment. This work will be paid for according to Article 701.20(c).

Basis of Payment: This work will be paid for at the contract unit price EACH for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, which price shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, video vehicle detection system, any maintenance or adjustment to the video vehicle detection system, all material required, the installation and complete removal of the temporary traffic signal. Sixty percent of the bid price will be paid following approval of each installation. The remaining 40 percent will be paid following removal of each installation.

SPECIAL PROVISION
FOR
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION

This item shall consist of maintaining the existing traffic signal installation at an intersection as shown on the plans and as described herein. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the contract or any portion thereof. The energy charges for the operation of the traffic signal installation shall be paid for by others. The maintenance of an existing traffic signal installation shall meet the requirements of Section 801.11 and 850 of the Standard Specifications except as follows:

This item shall include maintenance of all traffic signal equipment at the intersection, including emergency vehicle pre-emption equipment, master controllers, uninterruptible power supply (UPS and batteries) telephone service installations, communications cables and conduit to adjacent intersections, and other traffic signal equipment, but shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment, not owned by the State and County.

Seven days prior to assuming maintenance of the existing traffic signal installation(s) under this contract, the Contractor shall request that the Resident Engineer contact the Cook County Design Engineer at (312) 603-1730 for an inspection of the installation(s). The Design Engineer shall establish a date and time of inspection and at this time shall check the installation to determine if any corrective work should be done by the State, the County, or the Municipalities Electrical Maintenance Contractor prior to the Contractor taking over the maintenance of the installation(s). The Resident Engineer, the Design Engineer, and the State, County, or Municipality Maintenance Contractor and the Contractor shall mutually agree on the date of maintenance transfer to the Contractor for this contract.

Maintenance Procedures The Contractor shall perform the following maintenance procedures for each existing installation designated to remain in operation during construction:

- Have on staff electricians with IMSA Level II certification to provide signal maintenance.
- Patrol and inspect each installation every two (2) weeks for proper alignment of signal heads, light detectors, lamp failures, and general operation of the traffic signal.
- Check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to insure that they are functioning properly. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment.
- Provide immediate corrective action to replace burned out lamps or damaged sockets. When lamps are replaced, the reflector and lens shall be cleaned. All replacement lamps shall meet the approval of the Engineer. The Contractor shall repair or replace all defective equipment from any cause whatsoever.
- Maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

- Provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. A near right signal must also be maintained. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor is required to place stop signs (R1-1-36) at each approach to the intersection as a temporary means of regulating traffic. At approaches, where a Yellow Flashing indication is necessary, as directed by the Engineer, stop signs will not be required. When the signals operate in flash, the Contractor shall furnish and equip all his vehicles assigned to the maintenance of traffic signal installations with a sufficient number of Stop Signs as specified herein. The Contractor shall maintain sufficient number of spare Stop Signs in stock at all times to replace Stop Signs which may be damaged or stolen.

- Replace defective or damaged equipment. If the proper sequence with full detection cannot be obtained immediately, a controller which will provide the proper sequence and full detection shall be installed within twelve (12) hours of removal of the original controller.

- The Contractor shall be required to maintain the existing type of equipment and sequence of operations during the period of time that the original control equipment is being overhauled

- Provide the Engineer with the names, addresses, and telephone numbers of two (2) persons qualified and assigned to the maintenance of the traffic signal installation. These people must be made available 24 hours per day, each and every day of the year for emergency calls by the Engineer.

- Respond to all emergency calls from the Department or others within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the State or County. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's or the County's Electrical Maintenance Contractor perform the maintenance work required. The State's or County's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.

Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.

Basis of Payment. This work will be paid for at the contract unit price EACH for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION, which price shall be payment in full for all materials, equipment, and labor necessary to maintain the existing traffic signals as shown on the plans. Each intersection shall be paid for separately. Following the completion of the traffic signal maintenance transfer

to the Contractor, 30 percent of the bid price will be paid. Following the traffic signal maintenance transfer to County, state and/or local agency, 30 percent of the bid price will be paid. The remaining 40 percent will be paid when all items on the punch list are done to the satisfaction of the engineer.

SPECIAL PROVISION
FOR
EMERGENCY VEHICLE PRIORITY SYSTEM

The installation of an emergency vehicle priority system shall meet Sections 887 and 1072 of the Standard Specifications, except as revised with this Special Provision.

It shall be the Contractor's responsibility to contact the municipality or Fire District to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the Contract bidding. The equipment must be completely compatible with all components of the equipment currently in use by the Agency. A letter from the Agency is to be included with equipment submittals indication what brand of equipment is acceptable to the Agency.

All new installations shall be equipped with confirmation beacons as shown on the "District 1 Standard Traffic Signal Design Details". The confirmation beacon shall consist of a 6 watt Par 38 LED flood lamp with a 30 degree light spread, maximum 6 watt energy consumption at 120V and a 2000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4D-11 of the "Manual On Uniform Traffic Control Devices" and other applicable sections of future editions. The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz +0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the County.

This item shall include any required modifications to an existing Traffic Signal Controller as a result of the addition of the Emergency Vehicle Priority System.

The pre-emption detector amplifier shall be paid for on a basis of one (1) each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

Basis of Payment. This work will be paid for at the Contract unit price EACH for LIGHT TRANSMITTER, LIGHT DETECTOR, or LIGHT DETECTOR AMPLIFIER which price shall be payment in full for furnishing and installing the light transmitter, light detector, or light detector amplifier complete, with necessary connections for proper operation. The furnishing and installing of a confirmation beacon shall be included in the cost of the LIGHT DETECTOR.

The lead-in cable will be paid for at the contract unit price per FOOT (METER) for ELECTRIC CABLE IN CONDUIT, NO. 20, 3/C, TWISTED, SHIELDED or ELECTRIC CABLE AERIAL SUSPENDED, NO. 20, 3/C, TWISTED, SHIELDED which price shall be payment in full for furnishing and installing the lead-in cable and making all electrical connections. The electric cable shall be shielded and have three (3) stranded conductors colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the manufacturer of the Emergency Vehicle Priority System Equipment.

SPECIAL PROVISION
FOR
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT

This item shall consist of relocating the existing emergency vehicle priority system light detector from an existing traffic signal mast arm or post to the new traffic signal mast arm or post as indicated in the plans or as directed by the Engineer.

The work shall include disconnecting light detector and reconnecting it to the new cable.

The emergency vehicle system is not to be inoperative for more than forty-eight (48) hours and the Contractor must notify the municipality or Fire Protection District seventy-two (72) hours prior to the disconnection of the equipment.

Basis of Payment. This item will be paid for at the contract unit price EACH for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT which price shall be payment in full for disconnecting the existing light detector, relocating and connecting the light detector to the new cable complete and operating to the satisfaction of the Engineer. The relocating and connecting the existing confirmation beacon shall be considered incidental to the pay item for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT.

The confirmation beacon and light detector lead-in cables will be paid for at the contract unit price per FOOT for ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C, ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED, ELECTRIC CABLE AERIAL SUSPENDED, SIGNAL NO. 14 3C, or ELECTRIC CABLE AERIAL SUSPENDED, NO. 20 3C, TWISTED, SHIELDED, which price shall be payment in full for furnishing and installing the lead-in cable and making all electrical connections. The length of measurement shall be the distance horizontally measured between changes in direction, including cable in mast arms and slack cables. All vertical cables will not be measured for payment. Slack cables will be paid for as lead-in cables in conduit.

SPECIAL PROVISION
FOR
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT

This item shall consist of relocating the existing emergency vehicle priority system phasing unit (light detector amplifier) from an existing traffic signal controller to the new traffic signal controller cabinet, as indicated in the plans or as directed by the Engineer.

The work shall include disconnecting the emergency vehicle priority system phasing unit(s) (light detector amplifier) and reconnecting it/them to a new wiring harness which is to be factory wired into the new traffic signal controller cabinet.

The emergency vehicle system is not to be inoperative for more than forty-eight (48) hours and the Contractor must notify the municipality or Fire Protection District seventy-two (72) hours prior to the disconnecting of the equipment.

Basis of Payment. This item will be paid for at the contract unit price EACH for RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT which price shall be payment in full for disconnecting the existing phasing unit (light detector amplifier), relocating and connecting the phasing unit (light detector amplifier) to the new wiring harness at its new location complete and operating to the satisfaction of the Engineer.

CCDOTHSPECIAL PROVISION
FOR
OPTIMIZE TRAFFIC SIGNAL SYSTEM

Description. This work shall consist of optimizing a closed loop traffic signal system.

OPTIMIZE TRAFFIC SIGNAL SYSTEM applies when a new or existing closed loop traffic signal system is to be optimized and a formal Signal Coordination and Timing (SCAT) Report is to be prepared. The purpose of this work is to improve system performance by optimizing traffic signal timings, developing a time of day program and a traffic responsive program.

After the signal improvements are completed, the signal system shall be optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for the County. The Contractor shall contact the Traffic Signal Engineer at (312) 603-1730 for a listing of approved Consultants. Any signal timing problems/complaints shall be investigated by the Consultant and as requested by the Traffic Signal Design Engineer and resolved to the Department's satisfaction within a three-year period after the first report is submitted to CCDOTH. The consultant will be required to assist in trouble shooting the optimized system for problems encountered with the system at no cost to the County. Trouble shooting shall include (but not limited to) answering complaints, writing letters, making split adjustment, identifying and correcting oscillation problems, etc.. The consultant shall not charge extra man-hours for this three-year trouble shooting period. The Contractor shall contact the Traffic Signal Design Engineer at (312) 603-1730 for a Consultant who is still monitoring the Traffic Signal System or for a listing of approved Consultants. The System Coordination and Timing (SCAT) consultant's name shall be supplied. The letter will be reviewed by the Engineer to determine whether the SCAT consultant to be used is approved.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the Department office and if the Consultant provides blank computer disks, copies of computer simulation files for the existing optimized system and a timing database that includes intersection displays will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) The following tasks are associated with OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Appropriate signal timings and offsets shall be developed for each intersection and appropriate cycle lengths shall be developed for the closed loop signal system.

2. Traffic counts shall be taken at all intersections after the permanent traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday. The turning movement counts shall identify cars, and single-unit and multi-unit heavy vehicles.

3. As necessary, the intersections shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of the County.

4. A traffic responsive program shall be developed, which considers both volume and occupancy. A time-of-day program shall be developed for used as a back-up system.

5. Proposed signal timing plan for the new or modified intersection shall be forwarded to the County for review prior to implementation.

6. Consultant shall conduct on-site implementation of the timings and make fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.

7. Speed and delay studies shall be conducted during each of the count periods along the system corridor in the field before and after implementation of the proposed timing plans for comparative evaluations. These studies should utilize specialized electronic timing and measuring devices.

(b) The following deliverables shall be provided for OPTIMIZE TRAFFIC SIGNAL SYSTEM.

1. Consultant shall furnish to the County one (1) copy of a SCAT Report for the optimized system. The SCAT Report shall include the following elements: If a State system/intersection is involved one (1) copy of SCAT report for IDOT shall be furnished.

Cover Page in color showing a System Map	
Figures	
	1. System overview map – showing system number, system schematic map with numbered system detectors, oversaturated movements, master location, system phone number, cycle lengths, and date of completion.
	2. General location map in color – showing signal system location in the metropolitan area.
	3. Detail system location map in color – showing cross street names and local controller addresses.
	4. Controller sequence – showing controller phase sequence diagrams.
Table of Contents	
Tab 1: Final Report	
	1. Project Overview
	2. System and Location Description (Project specific)
	3. Methodology
	4. Data Collection
	5. Data Analysis and Timing Plan Development
	6. Implementation a. Traffic Responsive Programming (Table of TRP vs. TOD Operation)
	7. Evaluation a. Speed and Delay runs 8. A Time of Day (TOD) revised chart which includes all intersections spit timing,

	offset and program steps shall be furnished to the County. 9. A layout of traffic volumes which includes AM volume, PM volume, MD volume and distance between intersections. 10. System detector/Local detector relationship layout.
Tab 2. Turning Movement Counts	
	1. Turning Movement Counts (Showing turning movement counts in the intersection diagram for each period, including truck percentage)
Tab 3. Synchro Analysis	
	1. AM: Time-Space diagram in color, followed by intersection Synchro report (Timing report) summarizing the implemented timings.
	2. Midday: same as AM
	3. PM: same as AM
Tab 4: Speed and Delay Studies	
	1. Summary of before and after runs results in two (2) tables showing travel time and delay time.
	2. Plot of the before and after runs diagram for each direction and time period.
Tab 5: Environment Report	
	1. Environmental impact report including gas consumption, NO2, HCCO improvement.
Tab 5: Controller Data	
	1. Printed copies of master and local controller data
Tab 6: Electronic Files	
	1. Two (2) CDs for the optimized system. The CDs shall include the following elements: a. Electronic copy of the SCAT Report in PDF format b. Copies of the Synchro files for the optimized system c. Traffic counts for the optimized system d. New or updated intersection graphic display files for each of the system intersections and the system graphic display file including system detector locations and addresses.

Examples of Time of Day (TOD) chart, layout of traffic volumes and System detector/Local detector relationship layout can be obtained from the County.

The Consultant shall furnish to CCDOTH one copy of the revised SCAT Report in three-ring binders. If the system is maintenance by State or other agency, an approval letter from State or other agency shall be furnished to the County. The Consultant also shall furnish to State or other agency one copy of the revised SCAT Report in three-ring binder.

When an intersection under the system is maintenance transferred to the Contractor, the SCAT consultant shall start responding to complaints and make necessary timing adjustments. The Contractor shall hire the same SCAT consultant to work on system timing under construction stages when there is a temporary traffic signal.

SPECIAL PROVISION FOR PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN

Description. Work under this pay item shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Materials. The Cement Factor shall be a minimum of 7.35 cwt. The mix shall be designed according to Section 3.0 of the IDOT QC/QA PCC Level III Technician Manual. High early strength concrete shall achieve a minimum compressive strength of 3,500 psi within 3 days of placement.

Basis of Payment. This work shall be paid for at the contract unit price per square feet Portland Cement Concrete Sidewalk, High-Early-Strength, 8 in. The price shall include all materials and labor.

SPECIAL PROVISION
FOR
UNINTERRUPTIBLE POWER SUPPLY (UPS)

The furnishing and installation of this item shall meet the requirements of Section 862 and 1074.04 of the Supplemental Specifications and Recurring Special Provisions, except as follows:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of six hours.

The UPS shall additionally include, but not be limited to, a battery cabinet. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Installation

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the Cook County Emergency Vehicle Priority System specification at no additional cost to the contract.

Material:

The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/1000 VA active output capacity, with 90 percent minimum inverter efficiency).

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

The UPS shall be compatible with the County's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

The battery cabinet shall have provisions for an external generator connection.

The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.

The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

Battery System: All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

Basis of Payment

This work will be paid for at the contract unit price per EACH for UNINTERRUPTABLE POWER SUPPLY, which price shall be payment in full for furnishing and installing the Uninterruptible Power Supply complete with necessary connections for proper operation. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY item.

SPECIAL PROVISION
FOR
TEMPORARY TRAFFIC SIGNAL TIMINGS

Description. This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for the County. The Contractor shall contact the Traffic Signal Engineer at (312) 603-1730 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMINGS.

(a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting, if needed and conduct on-site implementation of the traffic signal timings. Make fine-turning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.

(b) Consultant shall provide monthly observation of traffic signal operations in the field.

(c) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.

(d) Consultant shall make timing adjustments and prepare comment responses as directed by the Traffic Signal Engineer.

(e) Return original timing plan once construction is complete.

Basis of Payment. The work shall be paid for at the contract unit price EACH for TEMPORARY TRAFFIC SIGNAL TIMINGS, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

SPECIAL PROVISION
FOR
UNINTERRUPTIBLE POWER SUPPLY WITHOUT CABINET

The furnishing and installation of this item shall meet the requirements of Section 862 and 1074.04 of the Supplemental Specifications and Recurring Special Provisions, except as follows:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of six hours.

The UPS shall additionally include, all material needed to make a working system. The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Installation
The UPS system shall be installed in a Type Super P cabinet which is paid for under "Full Actuated Controller and Cabinet, Type Super P".

At locations where UPS is installed and Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the Cook County Emergency Vehicle Priority System specification at no additional cost to the contract.

Material:
The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection's normal traffic signal operating connected load, plus 20 percent (20%). The total connected traffic signal load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 700 W/1000 VA active output capacity, with 90 percent minimum inverter efficiency).

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

The UPS shall be compatible with the County's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, service receptacles, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

Battery System: All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

Basis of Payment

This work will be paid for at the contract unit price per EACH for UNINTERRUPTABLE POWER SUPPLY WITHOUT CABINET, which price shall be payment in full for furnishing and installing the Uninterruptible Power Supply complete with necessary connections for proper operation. Replacement of Emergency Vehicle Priority System confirmation beacons shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY WITHOUT CABINET item.

SPECIAL PROVISION FOR PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, HIGH-EARLY-STRENGTH, 8 IN

Description. Work under this pay item shall be performed according to Section 423 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Materials. The Cement Factor shall be a minimum of 7.35 cwt. The mix shall be designed according to Section 3.0 of the IDOT QC/QA PCC Level III Technician Manual. High early strength concrete shall achieve a minimum compressive strength of 3,500 psi within 3 days of placement.

Basis of Payment. This work shall be paid for at the contract unit price per square yard Portland Cement Concrete Driveway Pavement, High-Early-Strength, 8 in. The price shall include all materials and labor.

SPECIAL PROVISION FOR PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN

Description. Work under this pay item shall be performed according to Section 424 of the IDOT Standard Specifications for Road and Bridge Construction, except as herein modified.

Materials. The Cement Factor shall be a minimum of 7.35 cwt. The mix shall be designed according to Section 3.0 of the IDOT QC/QA PCC Level III Technician Manual. High early strength concrete shall achieve a minimum compressive strength of 3,500 psi within 3 days of placement.

Basis of Payment. This work shall be paid for at the contract unit price per square yard Portland Cement Concrete Sidewalk, High-Early-Strength, 8 in. The price shall include all materials and labor.

SPECIAL PROVISION FOR TREE SLOW RELEASE WATERING BAG

Description. At the discretion of the Resident Engineer, the contractor will be allowed to use tree slow release watering bag. The work shall consist of furnishing, installing, maintaining and removing the device. The contractor shall inspect the device at least once a week to make sure that the device is functioning properly and water levels are maintained as specified by the manufacturer.

This device does not relieve the contractor of any responsibility during the establishment period of the tree.

This work shall be an additional option to the provisions of Section 253.15 of the State Specifications.

Basis of Payment. This work shall be paid for at the contract unit price each for Tree Slow Release Watering Bag. The price shall include all materials and labor which includes furnishing, maintaining, and removal of the device as directed by the Resident Engineer and in accordance with the plans and this special provision.

SPECIAL PROVISION FOR PAVER DRIVEWAY REMOVAL AND PLACEMENT

Description. The work shall consist of removing existing pavers, storing existing pavers, furnishing additional pavers (with the same shape, color and use), and installing the paver. The ancillary materials and installation shall be included in the cost of this special provision such as but not limited to borders, spikes, sand, and aggregate as specified by the manufacturer, municipal building codes, and county building codes to install the paver product for the driveway.

Special care shall be taken when removing the existing brick paver so that the brick paver can be reused.

During installation, the Contractor will take special care to match the same layout and pattern as the existing brick paver driveway.

Basis of Payment. This work shall be paid for at the contract unit price square yards for Paver Driveway Removal and Placement. The price shall include all materials and labor which includes removing, storing, furnishing, and installing a brick paver driveway as directed by the Resident Engineer and in accordance with the plans and this special provision.

SPECIAL PROVISION
FOR
TEMPORARY FLASHING BEACON INSTALLATION

This item shall consist of furnishing, installing, maintaining and removing a temporary flashing beacon installation at an existing locations as shown on the plans and as described herein including but not limited to temporary signal heads, controller, cabinet, service installation and signing. The energy charges for the operation of the flashing beacon installation shall be paid for by others. Otherwise charges shall be paid for under Section 109.05 of the Road Specifications.

The installation of a temporary flashing beacon installation shall meet the requirements of Section 890 and 801.11 of the Standard Specifications and the Standard Drawings, except as follows:

Equipment. The Contractor shall provide the following:

- All control equipment for the temporary flashing beacon shall be furnished by the Contractor unless otherwise stated in the plans.

- All temporary flashing beacon controllers shall meet or exceed the requirements of section 858. The controller settings shall be set in the field as directed by the Engineer.

- All temporary flashing beacon cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 100 mm (4 inch) diameter holes to run the electric cables through. The 100 mm (4 inch) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.

- Grounding shall be provided for the temporary traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 807 of the Standard Specifications and shall meet the requirements of the District 1 and Cook County Traffic Signal Specifications for "Grounding of Traffic Signal Systems".

- All flashing beacons shall be of the 12" (300 mm) type. Flashing beacon shall be LED with expandable view, unless otherwise approval by the Engineer. The temporary flashing beacon shall be placed as indicated on the temporary flashing beacon plan or as directed by the Engineer. Each temporary flashing beacon shall have its own cable from the controller cabinet to the flashing beacon.

All labor and material required to comply with these requirements shall be included to the bid price of temporary flashing beacon installation.

Maintenance Procedures. The Contractor shall perform the following maintenance procedures for each temporary installation designated to remain in operation during construction.

The Contractor Shall:

- Have on staff electricians with IMSA Level II certification to provide flashing beacon maintenance.

- Patrol and inspect each installation every two (2) weeks for proper alignment of beacons, lamp failures, and general operation of the flashing beacon.

- Check all controllers every two (2) weeks which will include visually inspecting all timing to insure that they are functioning properly. This item includes routine maintenance.

- Provide immediate corrective action to replace burned out lamps or damaged sockets. When lamps are replaced, the reflector and lens shall be cleaned. All replacement lamps shall meet the approval of the Engineer. The Contractor shall repair or replace all defective equipment from any cause whatsoever.

- Maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs.

- Provide immediate corrective action when any part or parts of the system fail to function properly.

- Replace defective or damaged equipment. If the proper operation cannot be obtained immediately, a controller which will provide the proper operation shall be installed within twelve (12) hours of removal of the original controller.

- The Contractor shall be required to maintain the existing type of equipment and time of day program during the period of time that the original control equipment is being overhauled

- Provide the Engineer with the names, addresses, and telephone numbers of two (2) persons qualified and assigned to the maintenance of the flashing beacon installation. These people must be made available 24 hours per day, each and every day of the year for emergency calls by the Engineer.

- Respond to all emergency calls from the Department or municipality within one hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the State or County. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the temporary flashing beacon installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the County's Electrical Maintenance Contractor perform the maintenance work required. The County's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor.

- Coordinate with school throughout the school year to adjust flashing schedule accordingly.

- Time clock shall be checked.

When temporary flashing beacon are to be installed at locations where existing beacons are presently operating, the Contractor shall be fully responsible for the maintenance of the existing flashing beacon installation as soon as any physical work begins on the contract or any portion thereof until which time the temporary flashing beacons are functioning and the existing flashing beacons are removed. In

addition, seven days prior to assuming maintenance of the existing flashing beacon installation(s) under this contract, the Contractor shall request that the Resident Engineer contact the Design Engineer at (312) 603-1730 for an inspection of the Installation(s). The Design Engineer shall establish a date and time of inspection and at this time shall check the installation to determine if any corrective work should be done by the County's Electrical Maintenance Contractor or the Municipalities Contractor prior to the Contractor taking over maintenance of the installation. The Resident Engineer, Engineer, and the Contractor shall mutually agree on the date of maintenance transfer to the Contractor for this section.

Basis of Payment: This work will be paid for at the contract unit price EACH for TEMPORARY FLASHING BEACON INSTALLATION which price shall include all costs for the modifications required for traffic staging, changes in flashing timing program as required in the Contract plans, all material required, and the installation and complete removal of the temporary flashing beacon.

SHEET 1 of 3

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
MATERIAL TESTING DIVISION

PAVEMENT INVESTIGATION

JOB NO 820-D DATE: 02/20/2002

SECTION 6 HISP 26 LOCATION Crawford Ave.
Lincoln Ave. to Golf Rd.

Boring No.	Boring Location & Offset	Measured Thickness, Inches				Subgrade Soil Classification	Remarks
		Asphalt Pvmt.	P.C.C. Pvmt.	Stone	Other		
1	10 + 00 22 ' E	4.5	7	-	-	Clay	
2	20 + 00 11 ' E	7	7	-	-	Clay	
3	30 + 00 22 ' E	5	8	-	-	Clay	
4	40 + 00 11 ' E	6.75	7.75	-	-	Clay	
5	50 + 00 22 ' E	4.25	7.75	-	-	Clay	
6	60 + 00 11 ' E	6.75	9	-	-	Clay	
7	70 + 00 22 ' E	3.5	8	-	-	Clay	
8	80 + 00 11 ' E	3.25	9.75	6	-	Clay	
9	90 + 00 22 ' E	4.25	7.25	-	-	Clay	
10	100 + 00 11 ' E	3.25	11.75	4	-	Clay	
11	110 + 00 22 ' E	4.5	7	-	-	Clay	
12	120 + 00 11 ' E	8	7.25	-	-	Clay	
13	130 + 00 22 ' E	4.5	7.5	-	-	Clay	
14	140 + 00 11 ' E	7.5	7.5	-	-	Clay	
15	150 + 00 22 ' E	5.25	7	-	-	Clay	
16	160 + 00 11 ' E	5.25	11	4	-	Clay	

Comments: c/l Lincoln Ave.= sta. 0+00.
P.C.C. in excellent condition.

SOILS ENGINEER

OCM-114 (6/94)

SHEET 2 of 3

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
MATERIAL TESTING DIVISION

PAVEMENT INVESTIGATION

JOB NO 820-D DATE: 02/20/2002

SECTION 6 HISP 26 LOCATION Crawford Ave.
Lincoln Ave. to Golf Rd.

Boring No.	Boring Location & Offset	Measured Thickness, Inches				Subgrade Soil Classification	Remarks
		Asphalt Pvmt.	P.C.C. Pvmt.	Stone	Roofing Tar		
17	170 + 00 22 ' E	4.5	8.5	6	-	clay	
18	180 + 00 11 ' E	4.25	9.5	4	-	clay	
19	190 + 00 22 ' E	4.5	7.5	6	-	clay	
20	200 + 00 11 ' E	9	8.25	4	-	clay	
21	210 + 00 22 ' E	4.25	7	-	0.5	clay	
22	210 + 00 11 ' W	6.75	7	-	-	clay	
23	200 + 00 22 ' W	5.5	6.5	-	-	clay	
24	190 + 00 11 ' W	7.75	6.75	-	-	clay	
25	180 + 00 22 ' W	5.25	7	-	-	clay	
26	170 + 00 11 ' W	6.75	7	-	-	clay	
27	160 + 00 22 ' W	6.25	8	-	-	clay	
28	150 + 00 11 ' W	1.25	10.5	4	-	clay	
29	140 + 00 22 ' W	5	6	-	-	clay	
30	130 + 00 11 ' W	2	8.5	6	-	clay	
31	120 + 00 22 ' W	4.25	6.5	-	-	clay	
32	110 + 00 11 ' W	6	7.5	-	-	clay	

Comments: P.C.C. in excellent condition.

SOILS ENGINEER

OCM-114 (6/94)

SHEET 3 of 3

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS
MATERIAL TESTING DIVISION

PAVEMENT INVESTIGATION

JOB NO 820-D

DATE: 02/20/2002

SECTION 6 HISP 26 LOCATION Crawford Ave.
Lincoln Ave. to Golf Rd.

Boring No.	Boring Location & Offset	Measured Thickness, Inches				Subgrade Soil Classification	Remarks
		Asphalt Pvmt.	P.C.C. Pvmt.	Stone	Other		
33	100 + 00 22 ' W	4.5	7.75	–	–	clay	
34	90 + 00 11 ' W	5.5	7.5	–	–	clay	
35	80 + 00 22 ' W	4.5	8	–	–	clay	
36	70 + 00 11 ' W	6	8	–	–	clay	
37	60 + 00 22 ' W	4.5	6	–	–	clay	
38	50 + 00 11 ' W	7	5.5	–	–	clay	
39	40 + 00 22 ' W	5.25	7.75	–	–	clay	
40	30 + 00 11 ' W	5.75	8	–	–	clay	
41	20 + 00 22 ' W	4	7	–	–	clay	
42	10 + 00 11 ' W	6	7	–	–	clay	

Comments: P.C.C. in excellent condition.

SOILS ENGINEER

OCM-114 (6/94)

TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: August 1, 2011

Revise the third sentence of the third paragraph of Article 105.03(b) of the Standard Specifications to read:

"The daily monetary deduction will be $2,500."

80273

CONCRETE MIX DESIGN – DEPARTMENT PROVIDED (BDE)

Effective: January 1, 2012

For the "Portland Cement Concrete (BDE)" special provision included in this project, specifically Article 1020.05(a), the Contractor has the option to request the Engineer determine mix design material proportions for Class PV, PP, RR, BS, DS, SC, and SI concrete. A single mix design for each class of concrete will be provided. Acceptance by the Contractor to use the mix design developed by the Engineer shall not relieve the Contractor from meeting specification requirements.

80277

PLANTING WOODY PLANTS (BDE)

Effective: January 1, 2012
Revised: August 1, 2012

Revise the second sentence of Article 253.01 of the Standard Specifications to read:

"This work shall consist of furnishing, transporting, and planting woody plants such as trees, shrubs, evergreens, vines, and seedlings."

Revise Article 253.02(a) of the Standard Specifications to read:

"(a) Trees, Shrubs, Evergreens, Vines and Seedlings ..... 1081.01"

Revise the first sentence of Article 253.08(a) of the Standard Specifications to read:

"(a) Excavation for Deciduous Trees and Evergreen Trees."

Revise the first sentence of Article 253.08(b) of the Standard Specifications to read:

"(b) Excavation for Deciduous Shrubs, Evergreen Shrubs, Vines, and Seedlings."

Revise the first sentence of Article 253.13 of the Standard Specifications to read:

"All deciduous and evergreen trees, with the exception of multi-stem or clump form specimens, over 8 ft (2.5 m) in height shall require three 6 ft (2 m) long steel posts so placed that they are equidistant from each other and adjacent to the outside of the ball."

Revise the first sentence of the second paragraph of Article 253.14 of the Standard Specifications to read:

"This period of establishment for the plants shall not delay acceptance of the entire project and final payment due if the contractor requires and receives from the subcontractor a third party performance bond naming the Department as obligee in the full amount of the planting quantities subject to this period of establishment, multiplied by their contract unit prices."

Revise the third sentence of Article 253.16 of the Standard Specifications to read:

"Trees, shrubs, evergreens, and vines will be measured as each individual plant."

Revise Article 253.17 of the Standard Specifications to read:

"**253.17 Basis of Payment.** This work will be paid for at the contract unit price per each for TREES, SHRUBS, EVERGREENS, or VINES, of the species, root type, and plant size specified; and per unit for SEEDLINGS. Payment will be made according to the following schedule.

(a) Initial Payment. Upon completion of planting, mulch covering, wrapping, and bracing, 90 percent of the pay item(s) will be paid.

(b) Final Payment. Upon inspection and acceptance of the plant material, or upon execution of a third party bond, the remaining ten percent of the pay item(s) will be paid."

Revise the first paragraph of Article 1081.01 of the Standard Specifications to read:

"**1081.01 Trees, Shrubs, Evergreens, Vines, and Seedlings.** Trees, shrubs, evergreens, vines, and seedlings shall be according to the current standards adopted by the ANLA."

80278

LIQUIDATED DAMAGES (BDE)

Effective: April 1, 2013

Revise the table in Article 108.09 of the Standard Specifications to read:

"Schedule of Deductions for Each Day of Overrun in Contract Time			
Original Contract Amount		Daily Charges	
From More Than	To and Including	Calendar Day	Work Day
$ 0	$ 100,000	$ 475	$ 675
100,000	500,000	750	1,050
500,000	1,000,000	1,025	1,425
1,000,000	3,000,000	1,275	1,725
3,000,000	6,000,000	1,425	2,000
6,000,000	12,000,000	2,300	3,450
12,000,000	And over	6,775	9,525"

80320

PORTLAND CEMENT CONCRETE EQUIPMENT (BDE)

Effective: November 1, 2013

Add the following to the first paragraph of Article 1103.03(a)(5) of the Standard Specifications to read:

"As an alternative to a locking key, the start and finish time for mixing may be automatically printed on the batch ticket. The start and finish time shall be reported to the nearest second."

80326

SPECIAL PROVISION
FOR
CRAWFORD GRADE CROSSING (CTA)

Description. This work shall consist of furnishing, installing, maintaining and adjusting all Chicago Transit Authority (CTA) equipment as described in the CTA design plans and the following CTA special provisions "CTA Crawford Crossing Specs", and as approved by the Resident Engineer and CTA.

The CTA equipment covered by this item includes but is not limited to conduit, electrical cable, railroad equipment, and temporary fencing.

The Contractor will be responsible for all fees, right of entry, training, and other CTA requirements for work within 50' of the CTA Right-of-Way.

Basis of Payment. This work shall be paid for at the contract unit price per lump sum for Crawford Grade Crossing (CTA).

SECTION 34 00 00

SIGNAL CONSTRUCTION

PART 1: GENERAL

1.01 SUMMARY

A. This project is initiated by the Cook County Department of Transportation and Highways (CCDOTH) to support the reconstruction of Crawford Avenue between Devon and Oakton to construct a wider roadway, new sidewalks, curb, gutter, pavement surface and narrow median. The Chicago Transit Authority (CTA) will support all staging associated with this project.

B. The work for this project includes, but is not limited to, providing all labor, material, equipment, temporary staging, circuit modifications, testing and inspection of signal equipment, incidentals and general conditions necessary to perform all the work as indicated on the drawings and in the specifications and as required for a complete project. Task responsibilities shall be referenced within this specification under Assign Work Tasks.

C. This project consists of a variety of signal, highway grade crossing and incidental improvements on the CTA rapid transit system at the intersection of Crawford and Mulford Ave.

D. This project has an anticipated duration of two construction seasons, approximately eighteen months.

1. The Contractor will perform work between Devon and Howard during the first construction season thus no support, assistance and/or modification of any kind will be required by the CTA. CTA system will function as normal with no interruption.

2. The Contractor will perform wok between Howard and Oakton during the second construction season and CTA will be required to support assistance and perform modification to the CTA system.

E. The anticipated schedule is Monday through Saturday from 9 a.m. to 3 p.m.

F. The Contractor shall inspect each site and verify all existing conditions, dimensions, access, obstructions, etc. The Contractor shall note that many enclosures and wayside equipment, including, but not limited to route selectors, signal junction boxes, transition cables, switch heat, etc. may not be noted or identified on the Contract drawings. Their presence and the protection of them is considered incidental to the Contract. They are readily visible from site inspections and train rides and do not constitute hidden or unforeseen conditions. Any damaged wayside signal equipment shall be replaced by the contractor at no cost to the CTA.

G. All conduit runs shown on the Drawings are shown diagrammatically for the purpose of outlining the general method of routing the conduits. It shall be the Contractor's responsibility to verify location, runs, paths and quantities.

H. The Contractor shall furnish, uninstall, reinstall and install all equipment, cables and material including the foundations, grade crossing equipment, cable and conduit as set forth wihin this Contract.

I. The CTA will terminate all cables and wires at the equipment, within the relay and grade crossing houses.

J. The CTA will make all modifications to the existing train control system.

K. The Contractor is responsible for giving CTA a 21 day notice prior to any modification to the train control system and the grade crossing equipment.

L. The CTA will perform all inspection and testing during each modification and/or staging required to support the project.

M. All work associated with CTA assets, property and operation will be as directed by the CTA Project Manager and/or Signal Engineer. CTA personnel will work directly with the CCDOTH Resident Engineer.

1.02 DESCRIPTION OF WORK

A. Remove and reinstall the 2 flashers, masts and junction boxes located on the north (N) and south (S) medians

B. Remove existing foundation, furnish and install new 2 foundations one for each flasher located on the N and S median. Foundations shall be located in the center of median to allow for use during construction staging.

C. Remove existing foundation, furnish and install new 4 foundations one on each corner of the crossing only if the current layout(s) and locations does not support ADA compliance, the new roadway profile and/or the new sidewalk profile.

D. Remove the 4 (2 – 12' & 2-16') guardrails. All guardrails, post, components and materials shall not be salvaged and shall be returned in good condition to the CTA. CTA has the option to re-stall guardrail outside the scope of this project. If damaged, the Contractor shall furnish new.

E. Protect in place the 3" HDPE bored 72" in depth between the 2 flashers on the N and S median (100 feet). If damaged, the Contractor shall furnish and install new.

F. Remove, furnish and install new between to the 2 flashers

1. Approximately 150 feet of 5C#9

G. Remove, furnish and install new between the N median flasher and the Crossing House (assume 32" depth)

1. Approximately 400 feet of 2 - 5C#9
2. Approximately 200 feet of 3" HDPE bored

H. Remove the aerial cable currently running across Crawford Ave if the electrical pole must be eliminated or relocated to a location that cannot support the aerial cable. Furnish and install new 2-3"HDPE bored 72" in depth across the Crawford Ave. Install 2 new junction boxes on 2 new foundations, one on each end of the roadway.

1. Approximately 400 feet of 1 – 37C#14
2. Approximately 400 feet of 1 – 12C#9
3. Approximately 300 feet of 3" HDPE bored

I. Remove and reinstall the NW highway crossing gate and foundation 2' 10" toward the street. If, gate is not relocated furnish and install a new 20' – 23' highway arm with support and lights.

J. Remove and reinstall the SE highway crossing gate and foundation 1' 3" toward the street. If, gate is not relocated furnish and install a new 20' – 23' highway arm with support and lights.

K. Protect in place the NE and SW pedestrian gates. Gates are located 7" from new

sidewalk design.

L. Remove and install new the rubber crossing pads, components and material if, existing is disturbed and/or destroyed during this project.

M. Remove, furnish and install new the subsurface drain located on both sides of the tracks crest.

N. Relocate signal cable located on the utility pole near the NW pedestrian gate. Signal cable shall be located underground. New junction boxes shall be installed on each side of the highway and then every 500 feet to the existing transition on both sides of the highway.

O. Temporarily shorten highway gate arms during lane closures.

P. Temporarily lengthen highway gate arms during lane closures.

1.03 ASSIGN WORK TASKS

A. CTA

1. Modify, test and inspect grade crossing equipment and train control system to support project staging.

2. Terminate, remove, modify and maintain all electrical wiring, equipment, apparatus, and fixtures associated with CTA equipment and operation.

3. Inspect grade crossing equipment, electrical systems and components to identify hazards, defects, operation and the need for adjustment or repair, and to ensure compliance with CTA Operation.

4. Test train control system, grade crossing equipment, electrical systems and continuity of circuits in electrical wiring to ensure compatibility and safety of system.

5. CTA Forces (signal and flaggers) shall be present during installation of all equipment, cable, conduit and etc.

6. If cables and conduits are damaged, the CTA will temporary repair cables and conduits.

B. CCDOTH and/or Contractor

1. Procure equipment, material and components set forth within the Contract.

2. Remove the 2 flashers, masts and junction boxes located on the medians after CTA has removed all wires. The Contractor shall protect, store and reinstall this equipment for use during construction. CTA will terminate all wires and perform all testing of equipment.

3. Install, move, set-in-place, mount and secure all equipment, material, components, conduit and cable at the direction of CTA Signal Engineer. CTA will perform all wire termination and adjustment of equipment.

4. Remove all guardrails including but not limited to the post, material and components. Return all items to the CTA in good working condition.

5. Install a 5 feet high snow fence 50 feet north and south of the right-of-way. The snow fence should be reconfigured during each phase of staging. No Construction shall occur within the limits of the snow fence without CTA Forces protecting the right-of-way.

6. Install a link fence matching the existing fence to secure CTA property on the south

portion of the 5'x25' construction area.

7. Protect in place all CTA assets including but not limited to the conduit, cables, foundations, equipment, and etc. If cables and conduits the Contractor must furnished and installed at no additional time, material or cost.

1.04 DESCRIPTION OF STAGING

A. Middle Lane Closure

1. Remove 2 flashers, masts and junction boxes located on the north (N) and south (S) medians. Flashers shall be protected to be reinstalled at the end of the construction. If damaged, the Contractor shall furnish and install new.
2. Protect in place the cables between the flashers. If cables are damaged repair, cables will be furnished and installed new at the end of construction.
3. Shorten the arms of highway gates to cover one lane nearest the pedestrian sidewalk.
4. Furnish and install additional tip lights on highway gate arm.
5. Protect in place the 3" HDPE bored 72" in depth between the 2 flashers on median (100 feet). If damaged, the Contractor shall furnish and install new.
6. Furnish and install orange snow fence on both sides of the tracks at the median to ensure proper clearance.
7. Relocate signal cable located on the utility pole near the NW pedestrian gate. Signal cable shall be located underground. New junction boxes shall be installed on each side of the highway and then every 500 feet to the existing transition on both sides of the highway.
8. Contractor shall remove existing fence as required to support the construction and install with orange snow fence. New fence shall be furnished and installed as approved by the CTA.

B. East Lane Closure

1. Remove the SE highway mechanism with gate arm and installed on the new foundation located on the south median.
2. Shorten the arm of highway gate to cover one lane nearest the pedestrian sidewalk.
3. Lengthen the arm of highway gate to cover one lane nearest the median.
4. Furnish and install 3' HDPE bored approximately 42" in depth between SE gate and new S median location.
5. Furnish and install approximately 100 feet of 12C#14, 5C#9 & 3C#6 cable between existing SE gate location and the new median foundation.
6. Furnish and install orange snow fence on both sides of the tracks on the east side of the highway to ensure proper clearance.
7. Remove guardrails on east side of the highway.
8. Locate and protect all aerial and underground cables.
9. If CTA is not allowed to leave the existing equipment in place for final configuration then the following must be included:
   a. The pedestrian mechanism is only 7" from proposed new location. Recommend not moving the gate and CCHD build new sidewalk around the gate.
   b. Remove and install new a foundation for the SE highway mechanism

c. Remove and install new 12C#14, 5C#9 & 3C#6 cable between the existing hand hole and new SE gate location.

d. Remove and install new the 3' HDPE bored approximately 42" depth between the existing hand hole and new SE gate location.

e. Install new a gate arm with flasher tips

f. Remove and reinstall all gate equipment

C. West Lane Closure

1. Remove temporary 3' HDPE and 12C#14, 5C#9 & 3C#6 cable between existing SE gate location and the new median foundation.

2. Remove S median highway mechanism and install at SE gate location (new or existing).

3. Shorten the arm of the SE highway gate to cover one lane nearest the pedestrian sidewalk.

4. Remove the NW highway mechanism with gate arm and install on the new foundation located on the north median.

5. Lengthen the arm of NW highway gate to cover one lane nearest the median.

6. Furnish and install 3' HDPE bored approximately 42" in depth between NW gate and new N median location.

7. Furnish and install approximately 100 feet of 12C#14, 5C#9 & 3C#6 cable between existing NW gate location and the new median foundation.

8. Furnish and install orange snow fence on both sides of the tracks on the west side of the highway to ensure proper clearance.

9. Remove guardrails on the west side of the highway

10. Locate all cables to ensure protection.

11. If CTA is not allowed to leave the existing equipment in place for final configuration then the following must be included:

a. The pedestrian mechanism is only 7" from proposed new location. Recommend not moving the gate and CCHD build new sidewalk around the gate.

b. Remove and install new a foundation for the SE highway mechanism

c. Remove and install new 12C#14, 5C#9 & 3C#6 cable between the existing hand hole and new SE gate location.

d. Remove and install new the 3' HDPE approximately 42" between the existing hand hole and new SE gate location.

e. Install new a new gate arm with flasher tips

f. Remove and reinstall all gate equipment

D. Final Layout

1. Remove, furnish and install approximately 100 feet of 5C#9 cable between the 2 flashers on median.

2. Remove, furnish and install new between the N median flasher and the Crossing House (assume 32" depth)

a. Approximately 100 feet of 2 - 5C#9 (150 feet total cable)

b. Approximately 80 feet of 3" HDPE Bore

3. Remove temporary 3' HDPE and 12C#14, 5C#9 & 3C#6 cable between existing NW gate location and the new median foundation.
4. Remove N median highway mechanism and install at NW gate location (new or existing).
5. Lengthen the arm of the NW highway gate to cover both lanes on the west side of the highway.
6. Lengthen the arm of the SE highway gate to cover both lanes on the east side of the highway.
7. Furnish and Install new tip lights on both highway gate arms.
8. Reinstall the existing flashers on the N and S median.
9. Remove all orange snow fence.
10. Furnish and install new fence where the fence was disturbed or modified by the Contractor. A minimum of 8 feet gate section shall be replaced on all sides where the original fence was disturbed.
11. CTA will test all signal equipment.
12. CTA will restore normal operation for the train control system.
13. CCDOTH will furnish and install new the rubber crossing pads, if damaged by Contractor.
14. CCDOTH will furnish and install new the subsurface drain located on both sides of the tracks crest, if damaged by Contractor.

1.05 STORAGE OF MATERIALS

A. The Contractor shall not store any material on the Authority's property or structures at any time unless approved by the Authority. All materials shall be delivered to the work site in quantities only large enough to perform the necessary tasks for each day.

B. The Contractor assumes full responsibility for protection and security of all materials stored on the site. Materials shall be maintained by the Contractor in "as-new" condition including but not limited to immediate removal of any graffiti or posters at no additional cost to the Authority.

C. The Contractor shall obtain and pay for the use of all storage areas required for its execution of the Contract. If it becomes necessary in the opinion of the Authority to move materials which are temporarily stored at a location, the Contractor shall move such materials to other locations as directed by the Authority at no additional cost.

1.06 GENERAL REQUIREMENTS

A. The Contractor shall limit the use of CTA property and facilities to the construction activities indicated in the Contract Documents.

B. The Contractor assumes full responsibility for CTA materials once the Contractor, or one of its subcontractors, have taken delivery of the materials or have picked it up from a CTA storage location. The CTA shall not be liable for any materials or equipment stored by the Contractor on CTA property or in any staging areas.

C. The Contractor shall not interfere with, block, or in any way encumber public right-of-way or personal property without proper permission of the person, business or agency having jurisdiction. Proof of authorization and copies of required permits shall be submitted to

the CTA prior to blocking or using the property or public right-of-way.

D. The Contractor shall provide reasonable access to the site and shall not prohibit nor interfere with lawfully conducted inspections or site visits by properly identified representatives of the CTA, regulatory agencies or collective bargaining units.

E. The Contractor shall perform preparation work such as temporary pavement marking, barriers, etc., and to provide and maintain traffic control and protection. Upon completion of all construction at each street, restripe the pavement and remove all traffic control and protection associated with the construction of the project.

F. Perform clean-up routinely at the end of each work day. It is the Contractor's responsibility to make sure each trade cleans up after their work and that each work zone is cleaned daily, otherwise the Contractor shall perform the clean-up for them.

G. The Contractor shall obtain and pay for all fees, rent or other expense for easement, for access to the work area or for storage of materials, equipment or construction operations. The Contractor shall submit proposed access plans including but not limited to access plans for additional areas, for the Authority's approval.

H. Specific project constraints, track flagging requirements and restrictions are outlined in Special Project Procedures and Proposal sections of the Contract Documents.

1.07 REGULATORY REQUIREMENTS

A. The Contractor shall immediately notify the Authority of requirements in these specifications and/or drawings, which do not strictly comply with the applicable laws, ordinances, and rules governing the work, before proceeding with that part of the work. Failure of the Contractor to do so shall be understood as an agreement on the part of the Contractor to guarantee compliance with the requirements of work covered by this Contract.

1.08 STANDARD SPECIFICATIONS

A. The American Railway Engineering and Maintenance-of-Way Association (AREMA), Manual for Railway Engineering, latest edition, except as modified herein.

B. The American Railway Engineering and Maintenance-of-Way Association (AREMA), Communications & Signals Manual, latest edition, except as modified herein.

C. The American Railway Engineering and Maintenance-of-Way Association (AREMA), Portfolio of Track Work Plans, latest edition, except as modified herein.

D. Regulations - Federal Railroad Administration, Rules, Standards and Instructions for Railroad Signal Systems, Part 236.

1.09 SUBMITTALS

A. All submittals shall be transmitted via the Project Web Based Project Management System and according to the requirements of Division One Section, "Submittals".

B. The Contractor shall submit a list of equipment, material, personnel, and equipment workloads which the Contractor will use during construction.

C. The Contractor shall submit product data on all material furnished and shall certify that all materials furnished are in compliance with the Contract documents.

D. The Contractor shall submit detailed shop drawings for all fabricated items for CTA review and approval before fabrication. Also submit shop drawings for the complete installation of all parts and associated hardware based upon actual field verified conditions and dimensions.

E. When a product substitute is requested in writing by the Contractor, only the assemblies and their component parts that have been approved by the CTA Engineer, as being equal shall be accepted.

F. Before starting fabrication of any part, the Contractor shall submit detail shop drawings to the CTA Engineer for review and written approval.

1. Shop drawings shall show dimensions, tolerances, welds, materials, finishes, and any other details required to adequately demonstrate that the requirements of this specification have been met.
2. Describe the procedures for installation and any applicable lateral adjustment ability.
3. Shop drawings for the associated plates and fasteners and other components utilized for installations adjacent to train stop mechanisms.

G. To expedite delivery, precedence shall be given to shop drawings for components requiring the greatest lead time for manufacture or fabrication. It is the Contractor's responsibility to call out the items needed first. The CTA will otherwise respond to submittals on a first come first reviewed basis.

H. The Contractor shall furnish all necessary detail drawings showing locations of parts and key numbers of such parts which, due to particular fabrication or fitting, have a specific location in the finished assemblies. Location of universal components not requiring special fitting for specific locations shall also be keyed as to type and indicated on the assembly drawings.

I. The Contractor's process plan shall include provisions for the installation, adjustment and testing of all signal equipment that was removed or disturbed in the course of work activities. The process plan shall include temporary and permanent work related to the signal system.

J. The Contractor shall submit, for review and approval by the CTA Engineer, the names and documentation of experience of all persons who will be used to perform the adjustment and testing of loop transmission modules and Power Frequency Track Circuits. Only persons qualified with specific training and experience in the adjustment AF-800C equipment will be permitted. These individuals are subject to approval by the Engineer. The names of such individuals shall also be submitted for each work period when the testing or adjusting of audio frequency equipment will be required.

K. The Contractor shall submit, for review and approval by the Engineer, the procedures for protecting, removing, installing, and testing the signal system equipment affected by work under this contract.

L. The contractor shall submit final as-built revised cable plan drawings, junction box drawings, main terminal board drawings, conduit plan drawings, track layout drawings, and all other associated signal drawings that were changed due to additions of junction boxes and routing of cable.

1.10 RELATED WORK

A. Related work specified elsewhere includes:

1. CTA Flagging Requirements
2. Section 01 35 00, Special Project Procedures
3. Section 02 20 00, Excavation and Disposal
4. Section 31 20 00, Earthwork
5. Section 34 42 03, Signal Equipment Removal
6. Section 34 42 10, Signal Duct Bank

7. Section 34 42 14, Concrete Foundation
8. Section 34 42 15, Signal Layouts
9. Section 34 42 31, Highway Crossing Warning System
10. Section 34 42 38, Miscellaneous Components
11. Section 34 42 40, External Cable
12. Section 34 42 41, Internal Wire and Cable
13. Section 34 42 76, Grounding of Equipment

PART 2: PRODUCTS

2.01 SIGNAL

A. Bill of material for grade crossing equipment is listed on the drawings. All other products are specified within the Contract.

PART 3: EXECUTION

3.01 SIGNAL INSTALLATION WORK

A. The Contractor shall provide personnel qualified to uninstall, re-install, install and adjust the signal equipment, cable and conduit.

B. CTA will terminate, test and inspect all equipment and cable prior to placing it in service. The CTA shall provide personnel to terminate test and inspect/witness during in each staging and modification of the equipment.

END OF SECTION

SECTION 01 35 00

SPECIAL PROJECT PROCEDURES

PART 1: SUMMARY

A. This section includes the requirements for safe construction operations on and adjacent to operating tracks of the CTA rail system. The Contractor shall be responsible for compliance with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System in effect at such time and all of the project specific procedures applicable for this specific project.

B. CTA shall provide no test train occurrences to the Contractor. If a test train is required the test trains shall be charged to the Contractor at the rate of $2,400.00 per test train occurrence.

C. Attachment H is not applicable to Contract construction adjacent to the CTA Rail System. No additional provisions and/or allowance shall be provided for normal service, operation, track access, construction hours and CTA Force occurrences.

1.01 PROJECT CONDITIONS

A. The Chicago Transit Authority (CTA) is an operating transportation agency and must maintain rail operations at all scheduled times for the benefit of the public. The Contractor shall conduct his operations in such a manner as not to cause damage to the CTA equipment, put the public or the CTA personnel in danger, cause inconvenience to the customers, interrupt train service (except as permitted herein) or cause avoidable inconvenience to the public and the surrounding communities.

B. No portion of the Work shall require service to be suspended or portion of tracks removed from service. If, for any reason a certain portions of the Work shall be performed on sections near the track where rail service needs to be suspended in order to facilitate the work. Track outages may be requested by the Contractor. The Contractor shall confirm with the Authority that track within the work limits has been taken out of service and the third rail de-energized, as required, prior to beginning the work.

C. If the Authority deems any of the Work or operations of the Contractor hazardous to the CTA's operations or to the public, the Authority shall order the Contractor to immediately suspend work until reasonable remedial measures are taken satisfactory to the CTA. Such suspension and those remedial measures shall be made at no extra contract time and no extra contract cost.

D. The Authority's review of any of the Contractor's procedures, methods, temporary structures, tools or equipment does not relieve the Contractor of responsibility for the safety, maintenance, and repairs of any temporary structure or work, or for the safety, construction, and maintenance of the work, or from any liability whatsoever on account of any procedure or method employed, or due to any failure or movement of any temporary structure, tools or equipment furnished.

E. The Contractor shall at all times observe all rules, safety regulations and other requirements of the CTA, including, but not limited to, the following Standard Operating Procedures (SOP's). Copies are included in the attached CTA Flagging Requirements manual.

1. No. 7037, "Flagging on the Right-of-Way".
2. No. 7038, "Train Operation Through Slow Zones".
3. No. 7041, "Slow Zones".

4. No. 8111, "Workers Ahead Warning System".
5. No. 8130, "Safety on Rapid Transit Tracks".
6. No. 8212, "Test Train Procedures"
7. Sketch 2000-SZ-1, Slow Zone Equipment

1.02 RAIL SAFETY TRAINING

A. The Contractor's and Subcontractor's employees assigned to work on, over or near the CTA right-of-way shall be required to attend an all-day Rail Right-of-Way Safety Training Session in accordance with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System. The cost of this training is currently $200.00 per employee, paid by the Contractor in advance. The certification is good for one calendar year from the date of issuance. The Contractor shall coordinate rail safety training with the CTA Project Manager.

B. Rail Right-of-Way Safety Training for contractor and subcontractor personnel will be scheduled by CTA as training slots become available. The Contractor is advised that the Contractor's failure to request training sufficiently in advance of when the employee is required on the work site shall not be cause for extending the Contract Time.

C. The $200.00 fee is non-refundable. If any individual fails to report for training or is rejected for training and must be rescheduled, an additional $200.00 will be required.

D. Upon successful completion of CTA Rail Safety Training, each trainee will be issued a non-transferable Rail Safety Tour Identification Card with the trainee's photo and a decal with pressure sensitive adhesive to be affixed on the hard hat. The Rail Safety Tour Identification Card and the decal are valid for one (1) year from the date of issue. The validity of the Card and the decal are in no way related to the length of the Contract.

E. Contractor and Subcontractor personnel must renew their Rail Safety Tour Identification Cards annually by successfully completing Rail Safety Training again. Contractor or Subcontractor personnel who fail to maintain a valid Rail Safety Tour Identification Card are not permitted to work on, above or adjacent to the CTA Rail Right-of-Way and CTA reserves the right to remove such personnel from the work site. The Contractor is advised that the Contractor's failure to employ personnel with valid Rail Safety Tour Identification Cards shall not be cause for extending the Contract Time.

F. Contractor shall maintain an up-to-date log of all Contractor and Subcontractor employees working at the construction site including the most recent completion date of each employee's Rail Safety Training and shall provide a copy of such log to the Authority upon the Project Manager's request.

1.03 MANDATORY ITEMS FOR EMPLOYEES

A. Contractor's and Subcontractor's employees assigned to work on CTA property will be given individual property permits. These permits shall be carried by each employee at all times while on CTA property. All permits issued shall be returned to CTA at the completion of the project, if the employee no longer works on this project, or on the date of expiration.

B. Each employee shall carry a valid Rail Safety Tour Identification Card at all times while on CTA right-of-way in accordance with Article 2-2 of the CTA Safety Manual.

C. All employees shall wear an undamaged hard hat with current rail safety sticker affixed, safety vest and eye protection at all times while on CTA right-of-way. Noise protection shall be used when necessary. The Contractor must also comply with all OSHA requirements as required for the work. The CTA shall provide the rail safety sticker to each Contractor employee upon successful completion of the Rail Right-of-Way Safety Training.

D. Contractor personnel shall wear suitable work shoes with defined heel and non-slip soles. Steel toes or metal cleats on the sole or heel of shoes are prohibited. Shoelaces are to be kept short so they do not pose a tripping hazard. Athletic shoes, sandals, open-toed shoes, moccasins and/or shoes with heels higher than 1" are not permitted.

E. Contractor personnel shall have a non-metallic, working flashlight after dark or when working in the subway.

1.04 WORK AREA AVAILABILITY

A. DEFINITIONS

1. RIGHT-OF-WAY WORK - Any work performed at, above, or below track level; or within fifty (50) feet of the centerline of track; or any work performed within the R.O.W.

2. IN-SERVICE TRACK - All CTA tracks are in service seven days a week, 24 hours a day, unless specifically removed from service for specific times by a Rail Service Bulletin issued by the Vice President, Rail Operations. Copies of the CTA's current train schedule for the lines affected by this project is available on the CTA's website and are subject to changes at any time, before or during, the Contract.

3. OUT-OF-SERVICE TRACK - The CTA tracks within a defined limit temporarily removed from service for the purpose of completing specific work. Traction power will remain on at all times unless power removal is requested by the Contractor and approved by the Authority. In such cases, traction power will be removed and restored by CTA personnel. The Contractor may request the Authority to de-energize portions of the Line to perform the Work as Out-of-Service Track when no revenue service is scheduled or as specified herein. Upon completion of the Out-of-Service Work, the Contract shall maintain sufficient personnel on-site to correct any deficiencies in the Contractor's Work discovered by the Authority during power and service restoration and testing.

4. TRACK ACCESS OCCURRENCE – A condition(s) which provides a modification to the normal operation of CTA service to facilitate access for a Contractor(s) to perform work on or near the CTA Right of Way as defined and limited in the Attachment H – Proposal section of the Contract Documents, if applicable.

5. RE-ROUTE – Modification to the normal routing of trains in order to remove rail traffic from a section of track to facilitate access for a Contractor(s) to perform work on or near the CTA Right of Way as defined and limited in the Attachment H – Proposal section of the Contract Documents, if applicable.

6. LINE CUT – A temporary cessation of all service on a transit line; meaning total stoppage of transit service on all tracks and at all stations within the closure zone to facilitate access for a Contractor(s) to perform work on or near the CTA Right of Way as defined and limited in the Attachment H – Proposal section of the Contract Documents, if applicable.

7. SINGLE-TRACK – A temporary operation established by operating trains bi-directionally on one track while the adjacent track is taken out-of-service. A single-track can only be established between track crossovers in the proper configuration for the required train movements. Only one single-track at a time can be set up on a line and only for very limited time periods. If CTA or a separate Contractor(s) request single track operations along the same line concurrently with the Contractor for this contract, CTA shall have the exclusive authority to determine which request shall be granted.

8. RUSH HOURS - Monday through Friday, from 0500 to 0900 hours and from 1500 to 1900 hours.

9. FLAGGER SHIFT- A flagger shift is defined as the services of a CTA Flagman up to, but no more than eight (8) hours including travel and required breaks. For example:

   a. A Contractor five hour work shift which requires 3 flaggers will use 3 flagger shifts.
   b. A Contractor eight hour work shift requiring 3 flaggers shall use 6 flagger shifts (because travel & break time will increase the flaggers work hours beyond eight).
   c. A Contractor ten hour work shift requiring 3 flaggers will use 6 flagger shifts.

10. INFRASTRUCTURE SHIFT- An infrastructure shift is defined as up to, but no more than eight (8) hours worked per CTA Infrastructure employee. For example:

   a. A Contractor five hour work shift requiring 2 signal maintainers will use 2 infrastructure shifts.
   b. A Contractor eight hour work shift requiring 2 towermen shall use 2 infrastructure shifts.
   c. A ten hour work shift requiring 2 lineman will use 4 infrastructure shifts.

11. PERSON-IN-CHARGE (PIC)- A person or persons, specified in a CTA Rail Service Bulletin, who is solely in charge of a work zone and is the single point contact between CTA and all persons (Contractor's, CTA and others) working in a work zone. The Rail Service Bulletin may identify the PIC by name or by radio call number.

12. POWER & WAY SERVICE BULLETIN (PWS Bulletin): A document authorized by the CTA Infrastructure Division intended to supplement a CTA Rail Service Bulletin by defining power/signal removal and restoration procedures and other work zone protection measures required to safely perform construction and/or maintenance work on or adjacent to the CTA Right of Way (ROW).

B. No service disruptions will be allowed for the completion of this work, except as noted herein. If the CTA deems it necessary, the CTA will impact operations to avoid a hazardous condition to either the passengers or employees and charge the Contractor for all associated costs and damages incurred.

1.05 CTA OPERATING REQUIREMENTS

A. Strictly comply with operating requirements of the Chicago Transit Authority while construction work is in progress, specifically as follows:

   1. All work performed on the CTA Right of Way or adjacent to CTA operating tracks will be allowed during the Construction Period only in accordance with the Article 1.06 "ALLOWABLE HOURS OF CONSTRUCTION". During most periods of construction, a "slow zone" shall be established at the work site and flagging personnel shall be deployed to facilitate safe and continuous train operations and to protect Contractor, CTA employees, passengers, the general public and property in the vicinity.

   2. No one is permitted to enter the right-of-way or work on or over track level during Rush Hours.

1.06 ALLOWABLE HOURS OF CONSTRUCTION

A. Construction activities at tracks, platform, station or above track level or adjacent to an active CTA right-of-way are not permitted during Rush Hours, except as noted in Section 1.06 paragraph C below.

B. Construction activities at platform level, track level or adjacent to the CTA Right-of-Way may be permitted during other periods under flagging protection with the advance concurrence of the CTA as follows:

1. Monday thru Friday: From 1900 hours to 0500 hours the next day (The power shall remain on for these hours unless allowed via specific Track Access Occurrence defined in Attachment H, if applicable).

2. Weekends: 1900 hours Friday to 0500 hours Monday

C. Construction activities near the CTA right-of-way that have been approved by the Authority to be in compliance with Paragraph 4.5.3 of the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System will be allowed during Rush Hours provided the proper barricades are in place.

D. Track Access Occurrences:

1. The total number of Track Access Occurrences shall be as specified in the Attachment H- Proposal section of the Contract, if applicable.

2. The exact hours for all Track Access Occurrences are subject to change by the Authority depending on the nature of the work, access requirements of CTA personnel, work performed under separate contract or operational requirements of the CTA.

E. The Authority reserves the right to modify the allowable hours of track access occurrences based on service requirements for the subject route and manpower availability for the date and location requested.

F. The Authority reserves the right to deny or to cancel a previously approved request for a Track Access Occurrence based on service requirements for the time period requested. The Authority may notify the Contractor of such denial or cancellation no later than 1 day prior to a Track Access Occurrence. Service requirements may be affected by major events (e.g., festivals, White Sox and Cubs games, concerts), or by a Track Access Occurrence scheduled elsewhere on that route or the CTA System.

G. The Contractor shall not be entitled any increase in Contract Time or Contract Price based on the Authority's denial of a Track Access Occurrence request or due to a minor reduction (1 hour or less) in the duration of a Track Access Occurrence.

H. The Contractor will not be permitted to perform work requiring a Track Access Occurrence or Flagging during the following special events:

1. Taste of Chicago.
2. Independence Day
3. Chicago Air and Water Show.
4. Chicago Marathon.
5. Chicago Jazz Festival.
6. Chicago Blues Festival.
7. Chicago St. Patrick's Day Parade.
8. The Saturday before Thanksgiving Day thru the Monday following New Year's Day.

9. Easter Sunday
10. Gospel Fest
11. Chicago White Sox Home Games
12. Chicago Cubs Home Games
13. Chicago Bears Home Games

I. In addition, CTA reserves the right to limit or deny access to the system during other major special events that may develop and that may impact service needs, during emergencies, and during severe weather conditions.

J. The Contractor must also coordinate his work, including work hours and locations, and the closure of streets and walks with other jurisdictions as identified below and obtain all required permits, provide approved barricades and signage, provide notice, and pay any required fees.

1. Cook County
2. Village of Skokie
3. IDOT
4. City of Chicago

K. Other CTA contracts or major adjacent construction work, including, but not limited to the North Main Line Stations (CTA), FAH Traction Power Upgrade (CTA) and Purple Line Viaduct Reconstruction (CTA) may limit and, or prevent the availability of street closures during the construction period of this contract. CTA assumes no responsibility for impacts to Contractor's schedule due to unavailability of specific dates for lane and, or street closures.

1.07 CONSTRUCTION PROCESS PLAN

A. The Contractor shall submit a Construction Process Plan whenever any work, in the opinion of the Authority, affects the safety or causes disruption of service or inconvenience to transit users, CTA Operations, service to any business or residence, impact street, sidewalk or alley access or impacts the public. At a minimum, an individual Construction Process Plan shall be required for each instance the Contractor requests that a section of track(s) be removed from revenue service (defined in Attachment H - Proposal section of the Contract Documents as a Track Access Occurrence, if applicable) and for any work that requires pre-activity meetings, as identified in Specification Section 01 31 50. The Contractor shall include in the schedule the submission, review and approval of each Construction Process Plan in accordance with the submittal schedule requirements defined in Specification Section 01 33 00.

B. A draft Construction Process Plan must be uploaded to the Project Website at least twenty-one (21) calendar days in advance of work and at least fourteen (14) calendar days prior to a pre-activity meeting. The plan shall include/address the following:

1. Applicable Contract Documents
2. Options
3. Related Change Orders
4. Purchases
5. Deliveries
6. Shop Drawings, Product Data and quality control samples
7. Possible conflicts

8. Compatibility problems
9. Time schedules
10. Weather limitations
11. Manufacturer's specifications
12. Compatibility of materials
13. Acceptability of substrates
14. Temporary facilities & signage
15. Space and access limitations
16. Governing regulations
17. Safe Work Plans(including Hazard Analysis)
18. Inspection and testing requirements
19. Required performance results
20. Recording requirements
21. Protection
22. Quality assurance/quality control
23. Noise Control
24. Community Impact
25. CTA Operations Impact
26. Proposed Traffic Control & Staging Areas
27. Lift Plan

C. The draft plan must also include reference to all Contractor Requests for Information (RFI')s and submittals that pertain to work identified in the plan. All submittals must be approved prior to uploading plan to the Project Website. All applicable RFI's must be completed prior to uploading plan to the Project Website.

D. The Construction Process Plan shall clearly identify the number of Safety & Quality Inspectors to be deployed for each Track Access Occurrence and include a checklist of tasks the these Inspectors shall be responsible for monitoring and documenting during each work period.

E. In addition, for any work to be performed during a Track Access Occurrence, the Contractor shall provide the following to the Authority:

1. A track access plan submitted to and approved by the Authority specifically identifying the area(s) of power removal and work zone protection methods being requested by the Contractor.
2. Work zone protection methods to be performed by the Contractor.
3. Name, title, contact information, and work hours for Contractor's on-site supervision
4. Work zone protection requested by the Contractor for implementation by the Authority (subject to Authority approval).
5. Pre-approved Safety and Quality Control Checklists, per Specification Section 01 45 00- Quality Control, applicable to the work elements being performed during the specific track(s) outage request for completion by the Contractor and submission to

the Person-In-Charge during Track Access Occurrence.

6. A general schedule reflecting proposed work to be performed within the requested Track Access Occurrence.

F. After pre-activity meeting minutes have been agreed to, all comments from the meeting must be incorporated into a final Construction Process Plan. This plan must be submitted and approved by the Authority prior to the start of related work

G. Prior to the Authority implementing an authorized Track Access Occurrence, the Contractor must provide, at least 48 hours in advance, an hourly schedule broken into tasks with a defined critical path that clearly establishes milestones that may be monitored. The hourly schedule shall also include, but not be limited to:

1. Name, title, contact information, and work hours for Contractor's on-site supervision.
2. Power removal **(min 1 hour)**
3. Proposed work activities.
4. Activities for inspection and completion of safety & quality checklists by Contractor.
5. Submission of safety & quality checklists to the CTA's Person-In- Charge (PIC) during Track Access Occurrence. The checklists shall be submitted to the PIC prior to commencing power restoration activities.
6. Power, Signal Restoration **(min 1 hour).**
7. Test train **(min ½ hour).**

H. The CTA intends to issue Power & Way Service Bulletins to supplement CTA Rail Service Bulletins. The Power & Way Service Bulletins are intended to provide procedural guidelines for safely removing and restoring the CTA's power & way systems (primarily traction power & signal) within the limits defined by the contract and Contractors specific track outage plan(s).

I. CTA labor shall be required to de-energize and re-energize traction power and perform such other work as may be deemed by the Authority to be required pursuant to the Contractor's work activities and authorized Track Access Occurrences, etc. CTA Signal Maintainer shall also be required to observe and witness the Contractor disconnection and reconnection of temporary signal work at each location where modifications are performed to support construction activities. One Signal Maintainer will be required to witness testing at each location or housing where it is taking place. CTA Signal Maintainer shall also be required to witness the Contractor restoration safety testing, prior to the line being returned to the CTA.

J. Two Linemen will be required at each location where traction power is energized or de-energized. The Contractor's schedule must include travel time for the CTA Electrician's (min ½ hour) if they are to energize or de-energize traction power at more than one location.

K. Failure of the Contractor to provide the CTA the minimum specified time required for the removal and restoration of all Power & Way systems within an authorized Track Access Occurrence will not be grounds for additional contract time or monies and will not waive the assessment of specified liquidated damages for failure to return track(s) to service in accordance with the contract requirements.

1.08 HAZARDOUS WORKING CONDITIONS

A. The Contractor shall caution all employees of the presence of electric third rail (600 volts DC), live cables and moving trains on CTA tracks. The Contractor shall take all necessary precautions to prevent damage to life or property through contact with the electrical or operations systems. The Contractor shall caution all employees that any contact with live electric third rail or "live" portions of train undercarriage may result in a

severe burn or death.

B. The Contractor shall establish third-rail safety precautions in accordance with Authority regulations, such as using insulating hoods or covers for live third rail or cables adjacent to the work. On every day and at every work site where a live third rail hazard exists, the Contractor shall instruct all employees of the emergency procedures. Knowledge of the disconnect switch locations or manner of disconnection shall be available at all times to the personnel on the job. Unless otherwise noted, only CTA Electrician's are allowed to disconnect power.

C. The third rail may be de-energized during authorized Track Access Occurrences. The planning and implementation of the de-energizing shall be listed in the Contractor's process plan and include documenting checklist requirements.

1.09 TRACK SAFETY

A. The Contractor shall, at all times, take special care to conduct operations over, on, under, adjacent to, or adjoining, the CTA Rail Right-of-Way in such a manner as not to cause damage, settlement or displacement of any structures, tracks or any portion thereof. The Contractor shall suspend such work until reasonable remedial measures, satisfactory to the Authority, have been taken.

B. Any damages to the CTA tracks, supporting structures or other existing facilities and properties caused by the Contractor's operations shall be replaced or repaired by the Contractor to the satisfaction of the Authority without additional cost. Contractor shall obtain photo documentation of damaged property to the Authority prior to performing any repair or replacement work.

C. The Authority shall have the right to perform any work it deems to be of an emergency nature and/or necessary to permit normal train operations during construction operations by the Contractor. The cost of such service or emergency work provided by the Authority shall be borne by the Contractor.

D. The Contractor shall perform all work in accordance with all OSHA safety regulations and all other applicable laws, codes or ordinances.

E. All work shall comply with the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System and CTA Standard Operating Procedures.

F. The Contractor shall take such precautions as are necessary to ensure the safety and continuity of the CTA operations and passengers. The Contractor shall provide a minimum horizontal clearance of 7'-2" from the centerline of the nearest tangent track to any falsework, bracing and forms or other temporary obstruction during the work under this Contract. The clearance requirements for curved track sections must be calculated by the Contractor to ensure encroachment into the clearance envelope will not occur. Prepare, submit and obtain approval of detailed drawings prepared and sealed by a licensed structural engineer in the state of Illinois for all falsework, sheeting and construction procedures adjacent to and under the tracks before doing any work on same. After obtaining approval of such plans, said falsework, sheeting and construction procedures shall be constructed strictly in accordance with the approved drawings and specifications. In case of any settlement or displacement of structures or tracks, the Contractor shall immediately proceed with all shoring or other work necessary to maintain the CTA property in a safe condition for the operation of train service. If the Contractor fails to undertake this work within 24 hours after notice by the Authority in writing, the CTA may proceed to repair or shore any such structure or tracks; and the cost thereof shall be deducted from any compensation due, or which may become due, to the Contractor under this Contract. If the settlement or displacement is severe enough to limit train service, the repairs shall be made immediately. All costs of any disruption to the

CTA service due to the Contractor's operations or negligence shall be at the Contractor's expense.

1.10 TRACK FLAGGING OPERATIONS

A. Temporary Track Flagging slow zones per CTA SOP 7041 and "CTA Safety Manual for Contract Construction on or Near the CTA Rail System" are restricted in the following manner:

1. Temporary track flagging slow zones can only be mobilized, utilized and demobilized in non-rush hour time periods and no more than one (1) Track Flagging Operation zone will be permitted at any given time. The Contractor shall be responsible to furnish and install the required slow zone signage and equipment. A Track Flagging Operation zone is defined as a contiguous work zone, of no more than 600 feet in length, regardless of the number of tracks fouled.

2. Current Standard Operating Procedures require Slow Zone with flagging protection whenever three or more workers are scheduled to work on, across or near a section of track for one half hour or more. Flagging protection shall be ordered and assigned according to the CTA Flagmen Requirements Manual. These standards must be adhered to and the number of flagmen assigned to a work location shall be as required by the CTA Flagmen Requirements Manual that is attached at the end of this section of the Specifications and is available for public viewing at CTA Headquarters upon request.

3. Temporary Track Flagging slow zone signs must be removed or turned so the sign cannot be read from the motor cab or hooded to cover the sign so it may not be read from the motor cab when the work crew clears the right-of-way.

4. The Contractor shall provide the CTA with a written request for flagmen and other personnel at least forty eight (48) hours (two normal working days and before noon) prior to the date, and time the work will be performed and the CTA personnel are requested.

5. The Contractor shall be responsible for all CTA Forces shifts. No (0) flagger shifts shall be provided at no cost to the Contractor, as part of the Contract.

6. No (0) infrastructure shifts for other CTA personnel (engineer, signalmen, linemen, towermen, etc.) shall be provided at no cost to the Contractor as part of the contract.

7. Flagmen or CTA Infrastructure personnel required by CTA for a Track Access Occurrence as provided in Attachment H – Proposal section of the Contract, if applicable will not be counted towards the allowable flagger or infrastructure shifts provided above.

B. The providing of such personnel and any other safety precautions taken by the Authority shall not relieve the Contractor of any liability for death, injury or damage arising in connection with the construction operations. See CTA SOP No. 7037, "Flagging on the right-of-way", for a description of flagging personnel duties.

C. To minimize flagmen usage, the Contractor shall use approved barricades, barricaded scaffolds and/or safety railings. Barricades and safety railing arrangements shall be in accordance with Section 4-5.3 of the CTA Safety Manual for Contract Construction On, Above, or Adjacent to the CTA Rail System.

D. The CTA does not guarantee that flagging or other personnel will always be available when requested. The Contractor shall be advised that requests for flagging manpower must conform to the CTA Flagman Requirements Manual, and certain work locations require multiple flagging personnel when only one track is fouled by the work.

E. The Contractor shall pay for all flagging and other personnel costs (costs will be deducted from the Contract) under any of the following circumstances:

1. Flagging or other personnel were requested by the Contractor and scheduled by the Authority but not used by the Contractor.
2. The Contractor failed to properly notify the Authority at least twenty-four (24) hours in advance of the date and time the work was to be performed to cancel scheduled personnel.
3. When the Contractor estimates that additional flagging personnel, signalmen, linemen, or towermen are needed to secure the project construction site or for a specific phase of construction.
4. When work being performed includes repair or rework resulting from previously installed non-conformant work.

In addition, The Contractor shall be responsible to reimburse the CTA for all flagger costs (costs will be deducted from the Contract) associated with the use of flaggers shifts throughout the duration of the contract. The cost for the each flagger shift shall be $900.00 per flagger shift.

The Contractor shall also be responsible to reimburse the CTA for all costs (costs will be deducted from the Contract) associated with the use of other personnel in excess of the Zero (0) infrastructure shifts throughout the duration of the contract. The cost for any other CTA personnel (engineer, signalmen, linemen, towermen, ect...) shall be $1,300.00 per infrastructure shift.

F. By labor contract, CTA flagging personnel are entitled to a 30-minute break after a continuous 5-1/2 hour work period, including report and travel time. The 5-1/2 hour period begins when the person reports to work at his or her home terminal. Additionally, flagging personnel are entitled to occasional personal breaks (to use the washroom facilities) during the normal course of work. When flagging personnel leave the work site, work must cease unless provision is made for a relief flagger. The Contractor shall coordinate the Project work schedule with the flagging personnel break periods.

G. All employees of the Contractor and subcontractors shall report any actions of perceived CTA employee misconduct, or if any CTA employee does not provide a full level of cooperation in support of the contract; immediately and directly to the CTA Project Manager, as well as CTA Operations in writing. Only with timely, written documentation will CTA be enabled to resolve work site personnel issues and take appropriate disciplinary action, when necessary.

H. If the Contractor, CTA Construction or Safety Inspector believes that the Flagman is unable to perform his/her duties responsibly, work shall be stopped immediately, ensure that the right-of-way is safe for train operations, and the Work Crew shall exit, without delay, the Rail System right-of-way. The Contractor must provide a written report to the Construction Inspector prior to the end of the workday.

1. In addition, all employees of the Contractor and subcontractors must report any actions of perceived CTA employee misconduct, or if any CTA employee does not provide a full level of cooperation in support of the contract immediately to the CTA's Control Center and/or CTA Rail Operations Route Manager. Within 24 hours of alleged incident, provide written report to the CTA Project Manager including detailed explanation of incident, employee badge numbers, location of incident, etc.
2. Failure to make the proper notification in writing may adversely affect any claim the Contractor may file with respect to CTA employee performance or lack thereof.

I. CTA Flaggers only provide flagging protection for the CTA right of way. Flaggers for streets, highways or other railroads are solely the responsibility of the Contractor. Any additional flagging required by other agencies or railroads are the responsibility of the Contractor as part of the General Conditions of the Work and shall be included in the Contractor's lump sum bid for the Work.

1.11 TRACK ACCESS OCCURRENCES

A. The entire system must be fully operational when the tracks are put back into service after a Track Access Occurrence. The track where work was conducted must be returned to CTA in revenue condition; all stations must be open, fully functional and properly cleaned. The Contractor shall be immediately available with sufficient staff for up to one hour after revenue operation begins to ensure that all systems are functioning properly.

B. The Contractor shall allow enough time prior to putting the tracks back into service to make sure the line can be fully operational. A test train shall be required after any track replacement, signal modification or any construction activity, determined by the Engineer, to require a test train. The number of test trains included in the Contract at no cost to the Contractor is established in Attachment H – Proposal section of the Contract, if applicable. The scheduling of test trains must include travel time to and from the location being tested. Additional time should also be allowed for any possible remedial work required before the system can be made fully operational.

C. All components of the system, including, but not limited to, tracks, signals, stations, entrances, etc. must be fully and properly operational prior to putting the tracks and facilities back into service. Any facilities under demolition or construction and any temporary facilities must be safe and secure so they do not impact revenue service operations.

D. The Contractor shall be subject to Liquidated Damages if any station, facility, yard, structure, track, or component is not fully operational and useable at the prescribed predetermined time; including all planned staging of construction sites. See Attachment H-Proposal section of the Contract for Liquidated Damages, if applicable.

1.12 ADDITIONAL REQUIREMENTS

A. The Contractor shall coordinate any temporary relocation of signal equipment by the Contractor with the CTA Project Manager. CTA forces will not be responsible for performing this work.

B. The contractor shall clean all debris and equipment from the work or staging areas after work has been completed after each work day. In the event the Contractor fails to so clean to the Authority's satisfaction, the Authority may perform any necessary cleaning and deduct the cost of such cleaning from the Contract Sum due the Contractor.

C. The Contractor shall be responsible for maintaining access to and use of any adjacent residential and business properties, including telephone lines, electric power lines, street traffic controls and other utilities serving those properties.

D. The Contractor shall maintain the signal and communications systems throughout the project:

1. The Contractor shall be responsible for all signal and communications system work necessary to support the staged construction.

2. The Contractor shall connect all cables following accepted industry practices. Accepted industry procedures require the testing of any circuitry that is disconnected and reconnected.

3. The Contractor shall reinstall all removed appliances exactly as when removed and

activate all wayside appliances prior to service restoration. All connections to the running rail or structure must be new.

4. The CTA Signal representatives shall perform system safety testing prior to returning tracks to CTA Operations.

5. Contractor temporary work shall be installed to allow clear access to CTA Maintenance staff for periodic maintenance and troubleshooting until the permanent systems are activated.

6. Up to two sets of proper splices will be allowed in existing or temporary cabling for construction staging purposes. Cables installed for the final signal system must be connected at junction boxes or housings and may not be spliced. All spliced cables must be meggered.

7. A fully functional signal and communication system must be operation at all times. Otherwise, the line will not be allowed to resume operation and the Contractor will be responsible for liquidated damages. See Attachment H – Proposal section of the Contract Documents for Liquidated Damages, if applicable.

1.13 AVAILABLE TRACK AND STAGING AREAS

A. The Contractor has no available track and storage space on the CTA property for this project.

B. The Contractor has access to the CTA property on the corners of Crawford and Mulford Street. The access area is 5' x 25' and must be secured at all times. Vehicles are not allowed in the access area. Facilities, underground utilities, cable, poles and other equipment shall be not disturbed.

END SECTION

Chicago Transit Authority
System Safety

Safety Manual
for Contract Construction
On, Above or Adjacent to the
CTA Rail System

April 2011
Revision No. 3

Baseline: 2002 Manual
Previous Revision: July 2009

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Foreword

The Chicago Transit Authority's (CTA) rail system contains billions of dollars in fixed assets, including elevated structure, bridges, rail stations, track, traction power distribution system, signal and communication systems, etc. The rail system is a unique environment, which has very specialized safety rules and procedures to protect employees and customers from moving trains, electrified third rail and other hazards.

Regularly, the CTA or the City of Chicago hires contractors and consultants to replace and modernize fixed assets on the CTA rail system right-of-way. Since these contractors and consultants are not usually familiar with this environment, the CTA developed this Safety Manual for Contract Construction to inform contractors and consultants about the rail system. The purpose of this manual is to give contractors and consultants a basic understanding of the major safety hazards expected to be encountered while working on and around the rail system right-of-way and to support their endeavor of working safely in this environment.

Safety is the responsibility of the contractor or consultant personnel. This manual identifies the contractor's or consultant's responsibilities for knowing, complying with and enforcing the rail system guidelines, rules and procedures, and shall govern the activities of contractors or consultants performing inspection, investigation, design, construction or any other work on, above or adjacent to the CTA rail system. This manual is not to be construed as the only source of the required safety measures to be employed by the contractor or consultant while on, above or adjacent to the CTA right-of-way.

The CTA believes if contractors and consultants know and follow these safety rules and procedures they can perform their work with reasonable efficiency while protecting their own safety and the safety of CTA customers, employees, property and the public while avoiding unnecessary delays to CTA service.

Sara Schwanke
General Manager, Safety & Risk Compliance
Chicago Transit Authority

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Appendix: References and Attachments

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Attachment 8 : CTA Rapid Transit System Map
Attachment 9: CTA Unusual Occurrence Report
Attachment 10: CTA Alcohol and Drug Rules

Chapter 1: Introduction

1-1 Scope

1-1.1 In providing quality mass transportation services, the Chicago Transit Authority's (CTA) top priority is to maintain the highest standard of safety for passengers, employees, contractors and the general public. The CTA makes every practical effort to prevent injuries and operate safely. To achieve this goal, a comprehensive safety system of operating rules and procedures has been developed by the CTA.

1-1.2 The Safety Manual for Contract Construction On, Above or Adjacent to the CTA Rail System governs any type of construction, engineering or maintenance work performed by contractors and consultants at any location on, above or adjacent to the CTA right-of-way.

1-1.3 The Safety Manual also applies to CTA rail system yards, rail stations, tracks, substations and any other facilities (structures, maintenance shops, etc.), where contractors or consultants are performing work close to moving rail vehicles or to the 600 volt DC traction power distribution system.

1-2 Purpose

1-2.1 It is the intent of the Safety Manual to give contractors and consultants an understanding of the special conditions that exist in and around the CTA right-of-way and to establish the safety rules, procedures and other precautions, which they (and their employees, subcontractors, etc.) shall follow.

1-2.2 The Safety Manual is part of a unified CTA safety program and supplements the Special Conditions Section of any engineering, maintenance or construction contract. The Safety Manual is not intended to amend or supersede any applicable safety standards, design criteria or codes (Chicago or other municipalities' building codes, NFPA, etc.), federal regulations (OSHA, EPA, etc.) or CTA standard operating procedures (SOP).

1-3 Application

1-3.1 The contractor is responsible for overall project safety. The Safety Manual should be applied whenever contractors and consultants perform work on, above or adjacent to the CTA rail system to protect themselves, their employees, sub-contractors, CTA passengers, employees and the public.

1-3.2 It is the responsibility of individuals entering or working in close proximity to the CTA rail system to follow all safety rules and procedures contained or referenced in the Safety Manual. All personnel shall use caution and apply all safe work practices.

1-3.3 The Safety Manual is not addressed to CTA personnel. There is a comprehensive system of CTA standard operating procedures and rail service bulletins directed to rail operating personnel that governs operations throughout the rail system and supports the safe and expeditious movement of trains.

1-3.4 In addition, this CTA safety system of rules includes the Safety Rules book addressed to the CTA bus, rail, engineering and facilities maintenance personnel which enables them to perform

essential work in and around the rail system without placing themselves, passengers or the public in danger.

1-4 Definitions

Authority or CTA means the Chicago Transit Authority acting by and through the Chicago Transit Board or its authorized agent, servant or employee in connection with a contract for an Engineering, Construction or Maintenance project.

Contractor or Consultant refers to the individuals, partnerships, firms, corporations, joint ventures or other entities identified in the contract, including their own personnel and the personnel of any subcontractors.

Contractor Safety Representative (CSR) refers to the individuals (safety engineer, safety supervisor, competent person) designated by the contractor's Safety Management Program (SMP) as having sole responsibility for the management of all safety matters at the construction site.

Construction Inspector refers to the vice president, infrastructure of the Authority or any other person designated by him or her or by the Chicago Transit Board or its authorized agent, servant or employee to be the construction inspector to oversee for compliance of all or any part of the contract documents at a construction site.

Operator refers to the CTA employee having direct and immediate control of the movement of a revenue or work train.

CTA Flagman refers to a CTA employee assigned to control the movement of trains by the display of flag or hand signals, flashing lights, etc.

Person-in-Charge (PIC) a person or persons, specified in a CTA rail service bulletin, who is solely in charge of a work zone and is the single point of contact between the CTA and all persons (contractors, CTA and others) working in a work zone. The rail service bulletin may identify the PIC by name or by radio call number.

Project Manager or Engineer refers to the chief engineer of the Authority or any other person designated by him or her or by the Chicago Transit Board or its authorized agent, servant or employee to be the project manager in charge of the project.

Track Access Occurrence is a condition(s) which provides modification to the normal operation of CTA service to facilitate access for a contractor(s) to perform work on or near the CTA right-of-way as defined and limited in the Attachment H portion of the contract documents.

Right-Of-Way (ROW) Work is any work performed at, above or below track level or within 50 feet of the centerline of track, or any work performed within the ROW unless separated by a physical barrier in compliance with Section 4.5.3 of this manual.

Safety Inspector refers to the general manager, safety & risk compliance of the Authority or any other person/consultant designated by the Chicago Transit Board or its authorized agent,

servant or employee to oversee compliance with the contractor's Safety Management Program (SMP) at a construction site.

NOTE: When a job title is mentioned in the Manual, the expression "or designee" is implied for the execution of the assigned activity.

Any person with authority may delegate the performance of assigned duties to subordinate personnel. This delegation need not be formal or in writing. However, responsibility for those duties cannot be delegated.

Chapter 2: Contractor Training and Other Pre-Requisites

2-1 Contractor Safety Management Program (SMP)

2-1.1 The contractor is responsible for the safety of their employees and others entering their job sites. The contractor is required to provide or secure all safety and health training for contractor personnel working on the project as required by CTA, federal, state and local laws, statutes and regulations.

2-1.2 Within 30 days of the date of the Notice to Proceed (NTP) the contractor shall submit their SMP to the CTA for review and comment. The SMP must comply with the requirements of this section, OSHA, City of Chicago and other regulatory agencies. Work on the project shall not be permitted to start until the full written plan, covering all required items has been submitted and approved.

2-1.3 The Site Specific Safety Plan (SSSP) shall govern all contractor and subcontractor personnel activity and shall address the project health and safety issues including but not limited to the following:

- Management commitment to safety
- Assignment of responsibilities
- Training and education
- Communications
- Safe Work Plan (SWP)
- Identification and control of hazards
- Hazard analysis
- Accident reporting and investigation
- Recordkeeping
- First aid and medical assistance

2-1.4 The contractor's Site Specific Safety Plan (SSSP) shall specify the name of the contractor safety representatives (CSR) (safety engineer, safety supervisor and competent person) assigned to that project and who are responsible for the safe and healthful performance of all work, including that performed by subcontractors. The contractor safety representatives shall ensure that all subcontractors are familiar and comply with the contractor's SSSP.

2-1.5 The contractor shall employ and assign a full-time safety engineer exclusively to this project within two weeks from contract award until its physical completion. The safety engineer's sole

responsibility shall be the management of all safety matters, including those specified in this section. The safety engineer shall have successfully completed the 30-hour OSHA course on Construction Safety and Health (29 CFR 1926). The Authority may accept the other safety certifications or safety training in lieu of the foregoing. The safety engineer shall have not less than ten years of safety or safety-related experience, and shall be familiar with the work being performed and shall be approved by the CTA.

2-1.6 The CSR shall implement and monitor the contractor's and subcontractor's safety programs, make area inspections, conduct Just in Time Training safety meetings, attend construction staging meetings, provide contractor disciplinary action, investigate all accidents and injuries and prepare all accident or injury reports required by CTA, federal, state or local authorities.

2-2 Rail Safety Training

2-2.1 The contractor's and subcontractor's employees assigned to work on, over or near the CTA right-of-way shall be required to attend an all-day rail right-of-way safety training session in accordance with the CTA Safety Manual for Contract Construction On, Above or Adjacent to the CTA Rail System. The training session identifies the dangers that exist on the rail system, including moving trains and the 600-volt DC traction power distribution system, and instructs the students on how to protect themselves while working. The certification is good for one calendar year from the date of issuance. The contractor shall coordinate Rail Safety Training with the CTA project manager.

2-2.2 Generally, one class is conducted each weekday and can accommodate up to eight students in each class. The contractor, subcontractor or consultant must pay the cost of the Rail Safety Training course, "Rail Safety Training Fee," in advance.

2-2.3 The contractor is responsible for requesting Rail Safety Training for contractor or subcontractor employees by providing a letter to the CTA project manager. The letter shall list the full name and last four digit of their social security number of each individual proposed for training. The contractor shall also enclose a check payable to the Chicago Transit Authority including the individual charge for the "Rail Safety Training Fee," multiplied by the number of individuals proposed for training. The contract specification for each project includes the current applicable cost for Rail Safety Training.

The "Rail Safety Training Fee" is non-refundable. If an individual fails to report for training or is rejected for training and must be rescheduled, an additional "Rail Safety Training Fee" will be required.

NOTE: The contractor should be advised that there might be a waiting period for a student to gain admissions into the Rail Safety Training course during certain times of the year.

2-2.4 Upon successful completion of Rail Safety Training, each trainee will be issued a nontransferable Rail Safety Tour Identification Card with the trainee's photo and a decal with pressure sensitive adhesive to be affixed on the hard hat. The Rail Safety Tour Identification Card and the decal are valid for one year from the date of issue. The expiration of the card and the decal are not related to the length of the contract.

2-2.5 The contractor, subcontractor or consultant personnel must renew their Rail Safety Tour Identification Cards annually by successfully completing Rail Safety Training. The contractor's personnel who fail to maintain a valid Rail Safety Tour Identification Card are not permitted to work on, above or adjacent to the CTA rail right-of-way.

2-2.6 The contractor's personnel who are working on the project shall wear approved, non-transferable hard hats while working on, over or adjacent to the CTA rail right-of-way. The Rail Safety Training decal must be affixed to the employee's hardhat. The decal will provide a way for the Safety department or construction inspector to easily identify trained personnel, but is not a substitute for the Rail Safety Tour Identification Card. All employees shall wear an undamaged hard hat with current rail safety sticker affixed, safety vest and eye protection at all times while on CTA right-of-way. Noise protection shall be used when necessary. The contractor must also comply with all OSHA requirements as required for the work. The CTA shall provide the rail safety sticker to each contractor employee upon successful completion of the Rail Safety Training course.

2-2.7 The contractor, subcontractor or consultant must keep the Rail Safety Tour Identification Card on their person at all times. They must be prepared to present this card at all times while working on CTA property. Any work site on the right-of-way is subject to unannounced safety audits by the CTA's Safety department, the CTA construction inspector, the CTA Rail Operations personnel or other CTA official.

2.2.8 The contractor, subcontractor or consultant shall maintain an up-to-date log of all employees working at the construction site including the completion date of the Rail Safety Training.

2-3 Coordination of Construction Activity

2-3.1 After the construction schedule is approved, the contractor shall provide the project manager with the names and telephone numbers of the designated contractor individual in charge of the specific work site(s) and of the designated contractor safety representative (CSR).

2-3.2 No contractor can enter the right-of-way or perform any work affecting the rail transit operations without permission from CTA Rail Operations division.

2-3.3 Prior to a contractor changing a safety critical element of railroad plant, the engineer shall perform a preliminary hazard analysis according to all applicable guidelines (e.g. FTA). When the construction activity is interfering with the rail revenue service, the contractor shall utilize the preliminary hazard analysis in developing the construction schedule (according with contract documents) and to substantiate the staging of the construction activities. At least 21 days before the safety critical element is introduced or altered, the construction inspector shall submit a request to Rail Operations for approval. The Rail Operations division must issue a service bulletin for the training and instruction of operating personnel on that rail line.

2-3.4 After a temporary rail line closure, all components of the rail system, tracks, signals, stations, etc., must be operational, safe and secure prior to putting the tracks back into service. Rail Operations is required to operate a test train to check and verify any new or altered structure, station, track work, traction power or signal prior to running the first passenger train or as directed by the engineer. Additional time shall be allowed by the contractor for any possible remedial work required before the system can be made fully functional. The contractor shall allow enough time prior to putting the tracks back into service to make sure the line can be fully operational. A test train shall be required after any track replacement, signal modification or any construction activity, determined by the engineer, to require a test train. The scheduling of test trains must include travel time to and from the location being tested. Additional time should also be allowed for any possible remedial work required before the system can be made fully operational.

2-3.5 All major work activities should have ample planning and an associated job hazard analysis.

Chapter 3: Work Rules and Procedures on the Rights-of-Way

The CTA provides safe and reliable mass transportation services seven days each week and 24 hours each day. The following work rules and procedures on the CTA rail right-of-way have been developed to provide adequate time and working conditions for contractors to perform construction and other work on the rail system in a safe and efficient manner.

3-1 Periods of Light Ridership

3-1.1 Generally, construction and other work activities at track level or adjacent to an active CTA track is permitted only under slow zone and flagman protection during the periods of light ridership listed below, subject to approval by CTA Operations:

- Monday through Friday from 0900 to 1500 hours
- Monday through Thursday from 1900 hours to 0500 hours the following day
- Weekends from 1900 hours on Friday until 0500 hours on Monday morning

3-1.2 Construction activities at or above track level or next to an active right-of-way are not permitted during weekday "rush hours," typically from 0500 to 0900 hours and from 1500 to 1900 hours, Monday through Friday business days, except holidays.

3-1.3 Some CTA rail lines, as well as portions of other lines or branches are closed to passenger service at night or on weekends. These scheduled closures may offer contractors an opportunity to perform construction or other work on vacant track during those periods without interruption from passing trains and possibly with the 600-volt DC power removed. The latest revision of the CTA Bus and Rail Route Map shows the hours of service on each rail line or branch. The CTA Rail Operations department may approve the construction activities during the scheduled closures of the rail lines.

3-2 Communication Requirements

The CTA Control Center can be contacted seven days a week, 24 hours a day by CTA Radio (K347), Telephone: (312) 432-8030, or by CTA extensions 28030 or 28040.

3-2.1 The designated contractor's or consultant's representative in charge of each specific work site(s) shall be equipped with a cellular telephone to enable direct communications with the CTA Control Center, CTA safety inspector and 911 on a continuous seven-day, 24-hour-a-day basis. In the subway, the contractor personnel may need to have a flagman, operator or other CTA employee or an emergency phone to communicate with the Control Center in emergencies.

3-2.2 The contractor's personnel entering any work site on the right-of-way shall be accompanied by a CTA employee (flagman or construction inspector) equipped with a CTA radio. The CTA employee will notify the rail controller on the proper channel, providing all necessary information. The rail controller must broadcast this information to the rail operators on that specific line to operate according to established rules and procedures.

3-2.3 After the contractor's personnel clear the rail system, the CTA employee shall call the Control Center on the radio and report that all contractors' personnel are clear of the right-of-way, report the status of the rail tracks and other system components at the work site and the position of the slow zone signs.

3-2.4 Whenever the CTA flagman, safety or construction inspector or CTA Rail Operations management notifies the contractor of any deficiencies or unsafe conditions at the work site, the contractor's representative shall take immediate corrective action.

3-2.5 The designated contractor's representative shall promptly notify the Control Center of any hazards, safety deficiencies, emergencies or other needs for assistance (e.g., medical) at the work site(s).

3-3 Entering the Right-Of-Way

3-3.1 **No one is permitted to enter or work on the CTA right-of-way (including CTA employees) without first notifying and receiving approval from the CTA Control Center.**

3-3.2 The contractor's personnel must be assisted by a CTA (flagman, rail supervisor or construction inspector), equipped with radio communication with CTA's Control Center, when entering the right-of-way.

3-3.3 Before entering the right-of-way, the CTA employee shall request specific authorization using a CTA radio from the rail controller for that specific rail line according to SOP #8130, "Safety on Rapid Transit Tracks" (see Attachment 3). The CTA employee shall identify himself or herself, identify the number of people entering the right-of-way, identify the work location, direction of traffic, the planned work starting time, the estimated duration of work on, above or adjacent to the right-of-way.

3-3.4 No one is permitted to enter or work on, above or adjacent to track level during rush hours, Monday through Friday from 0500 hours to 0900 hours and from 1500 hours to 1900 hours. Access during these periods is permitted only if properly barricaded in compliance with section 4.5.3 of this manual or for emergencies.

3-4 Slow Zones

3-4.1 A slow zone is a section of track, marked with warning signs and lights, through which trains operate at reduced speed. When necessary, if the integrity of the right-of-way is degraded, a slow zone is setup to protect personnel performing work and their equipment in the work area from passing trains.

3-4.2 To avoid unreasonable delays to the riders, CTA Rail Operations and the project manager will approve the number, length and schedule for slow zones on each route.

3-4.3 Temporary track flagging work zones can only be mobilized, utilized and demobilized in non-rush hour time periods and no more than one track flagging operation zone will be permitted at any given time. The contractor shall be responsible to furnish and install the required slow zone signage and equipment. A track flagging operation zone is defined as a contiguous work zone, of no more than 600 feet in length, regardless of the number of tracks fouled.

3-4.4 The contractor, under the supervision of the construction inspector is responsible for installing, moving slow zone signs along the right-of-way as work progresses and for repositioning or removing all slow zone warning signs and lights daily or as required throughout the project. The CTA flagman will verify that the slow zone signs are installed according to the SOP.

3-4.5 The contractor is responsible for maintaining the slow zone warning lights and signs, including the purchase and replacement of batteries. The contractor shall return all issued slow zone

warning signs and lights to CTA in good condition at the completion of the project. Any costs required to replace or repair issued slow zone warning signs or lights shall be deducted from payments owed to the contractor.

3-4.6 Slow zone operations and the placement of warning signs and lights shall conform to CTA SOP #8130, "Safety on Rapid Transit Tracks" and SOP #7041, "Slow Zones" (see Attachments 3 and 4).

3-5 Flagman Protection

3-5.1 Whenever a contractor is working on, over or in close proximity to an operational rail right-of-way, a slow zone with flagman protection is required to facilitate safe and continuous train operations. The CTA flagman is dispatched to protect contractor personnel, CTA employees, customers, the public and property in the vicinity of the work site in accordance with CTA SOP #7041, "Slow Zones" (see Attachment 4).

3-5.2 The contractor shall provide the CTA with a written request for flagmen and other personnel at least 48 hours (two normal working days and before noon) prior to the date time of the work will be performed and the CTA personnel are requested.

3-5.3 The Rail Operations division will make every effort to provide flagging personnel to the contractor consistent with section 3-4.2. The CTA construction inspector shall verify that the construction work being performed requires flagman protection (See CTA Flagman Requirements Manual).

3-5.4 The contract specification includes the circumstances when the contractor must utilize the flagmen or other CTA personnel (e.g. switchman, towermen). In addition, the contractor is required to request flagmen or other CTA operating (e.g. switchman, towermen) and maintenance (e.g. electrician) personnel anytime when the construction inspector determines that is necessary to ensure safe train movement during a construction or engineering project.

3-5.5 CTA flagmen are responsible for ensuring that train traffic proceeds in a safe manner while work is in progress.

3-5.6 The provision of CTA flagging personnel and any other safety precautions taken by the Authority shall not relieve the contractor of any liability for death, injury or property damage arising in connection with the construction operations.

3-5.7 The CTA flagman is required to wear a safety vest and to bring to the work site an operable air horn with spare canisters, a red signal flag, a portable track trip device and a CTA communications radio. In low visibility areas and during night operations, CTA flagman shall also bring a flashlight to the work site as required in CTA SOP #7037, "Flagging on the Right-of-Way" (see Attachment 1).

3-5.8 The contractor shall conduct a site briefing for the CTA flagman before the commencement of work to ensure that the flagman knows and thoroughly understands any signals the contractor will use (e.g., to indicate that the right-of-way is clear for train traffic). This site briefing will prevent any potential miscommunication between the flagman and the contractor. The contractor shall identify one work crew leader at the work site assigned to communicate with the flagman.

3-5.9 By labor contract, CTA flagging personnel are entitled to a 30-minute break after a continuous 5-1/2 hour work period, including report and travel time. The 5-1/2 hour period begins when the

person reports to work at his or her home terminal. Additionally, flagging personnel are entitled to occasional personal breaks (to use the washroom facilities) during the normal course of work. When flagging personnel leave the work site, work must cease unless a provision is made for a relief flagger. The contractor shall coordinate the project work schedule with the flagging personnel break periods.

3-5.10 The CTA construction inspector or a CTA Rail Operations representative will position each flagman initially; about 200 feet in advance of the work area according to SOP #7041, "Slow Zones" (see Attachment 4).

3-5.11 The flagman will signal (flag) oncoming trains to stop at the flag (see SOP #7041, "Slow Zones"). The flagman shall have the portable track trip device installed on the running rail opposite the motorcab (when facing in the direction of travel), directly across the track from the "Begin Slow Zone/6 mph" sign in order to stop any train.

3-5.12 When a train approaches the "Slow Zone 600 ft Ahead" sign, the flagman shall sound one long blast on his air horn to warn the work crew that a train is approaching the work area.

3-5.13 The contractor shall promptly interrupt construction activities, secure the area for train movement and clear all personnel, tools and material away from the track to allow safe train passage. Under no circumstances shall the contractor delay any train for more than two minutes after that train arrives at the work site. Failure to comply with every aspect of this requirement may result in immediate discontinuance of work at the site.

3-5.14 After the contractor has issued an "all clear" signal to the flagman, indicating that the track area has been cleared, the flagman removes the portable track trip staff and signals (showing the trip staff) the operator of the waiting train to proceed slowly (6 mph) through the work site. The operator acknowledges the "proceed" signal by two short sounds of the train horn.

3-5.15 If, for any reason, the train fails to acknowledge the flagman's signal to stop, the flagman will sound continuous short blasts on the air horn to signal the work crew to move quickly but safely out of the path of the train.

3-5.16 When the construction activity interferes with two-way train traffic or work is such that it requires more flagmen, the CTA will assign the necessary number of flagmen (See CTA Flagman Requirements Manual) or, in the case of manpower shortage, the work must be postponed until the prescribed number of flagman can be provided.

3-5.17 In areas of limited visibility or sections of curved track, an additional flagman shall be positioned between the primary flagman and the work crew, if required. If necessary, the second flagman will also use a portable track trip device to stop approaching trains. The "CTA Flagman Requirements Manual" provides guidelines for the coverage of flagmen assignments.

3-5.18 In an emergency or serious accident, the contractor shall direct the CTA flagman to notify the Control Center, by radio, and request immediate traction power removal to ensure withholding of all train movements in the area and to request any emergency assistance that is required (e.g., ambulance, police).

3-5.19 If the contractor, CTA construction or safety inspector believes that the flagman is unable to perform his or her duties responsibly, work shall be stopped immediately, ensure that the right-of-way is safe for train operations, and the work crew shall exit, without delay, the right-of-way.

The contractor must provide a written report to the construction inspector prior to the end of the workday. The Control Center shall be notified and a new flagman requested. When the new CTA flagman arrives at the work site, the work crew may re-enter the right-of-way and resume work only after the contractor completes the site briefing with the new flagman. All employees of the contractor and subcontractors must report any actions of perceived CTA employee misconduct, or if any CTA employee does not provide a full level of cooperation in support of the contract immediately to the CTA's Control Center and the CTA Rail Operations route manager. Within 24 hours of alleged incident, provide written report to the CTA project manager including a detailed explanation of the incident, employee badge numbers, location of incident, etc. Failure to make the proper notification in writing may adversely affect any claim the contractor may file with respect to CTA employee performance or lack thereof.

3-5.20 The contractor personnel (crew leader) cannot assume the duties or the responsibilities of a flagman, except in the case of an extreme emergency.

3-6 Track Access Occurrences

3-6.1 As much construction work as possible should be performed in slow zones under flagging protection. During certain light passenger traffic periods on some rail lines when completion of work tasks is critical to the project, it is possible for the CTA to operate trains on a single track. Generally, single-tracks are permitted only to enable the completion of construction tasks which cannot be interrupted (e.g., removing an entire section of right-of-way).

In single-track operations, passenger service trains are re-routed between adjacent crossovers as required to operate train service past the work site in both directions on the same track. The remaining track is inactive, leaving it available for continuous construction work. The 600-volt DC traction power may be removed from the out-of-service track to further facilitate work.

The CTA can operate trains on a single track only on certain lines and with the proper notification (21 days advance notice) of the CTA construction inspector and with approval of Rail Operations.

3-6.2 Track access occurrences may be provided to the contractor for work on the CTA right-of-way. In that event, the entire system must be fully operational when the tracks are put back into service after a track access occurrence. The track where work was conducted must be returned to CTA in revenue condition; all stations must be open, fully functional and properly cleaned in both directions. The contractor shall be immediately available with sufficient staff for up to one hour after revenue operation begins to ensure that all systems are functioning properly.

3-6.3 The contractor shall allow enough time prior to putting the tracks back into service to make sure the line can be fully operational. A test train shall be required after any track replacement, signal modification or any construction activity, determined by the engineer, to require a test train. The scheduling of test trains must include travel time to and from the location being tested. Additional time should also be allowed for any possible remedial work required before the system can be made fully operational.

3-6.4 All components of the system, including, but not limited to, tracks, signals, stations, entrances, etc. must be fully and properly operational prior to putting the tracks and facilities back into service. Any facilities under demolition or construction and any temporary facilities must be safe and secure so they do not impact revenue service operations.

3-6.5 The CTA reserves the right to deny the contractor's request for a single-track if necessary to meet passenger service requirements. Typical reasons for denial may include increased ridership due to major events (e.g., festivals, sporting events, concerts), inadequate labor force, or conflict with other service alterations on the CTA system.

3-6.6 The contractor shall request approval from the CTA project manager at least 21 calendar days before the proposed starting date of construction activity that requires single-track train operations. The contractor must receive the approval of the CTA inspector and Rail Operations before any single-track train operations can begin.

3-6.7 The contractor shall confine all work to be performed within the single track. The work activity must not affect the active revenue service tracks.

3-6.8 In case of an emergency, the CTA reserves the right to cancel a single-track operation at any time. If the single track is cancelled, the contractor must take the steps necessary to return the track to revenue service immediately.

3-6.9 Before the end of the single-track operation period, the contractor shall suspend construction activities and restore the inactive track to full operating condition in sufficient time to operate any required test trains (see Section 2-3.4) and resume revenue service no later than the end of the allowable hours of construction.

3-6.10 When movement of track geometry testing cars, work or testing train and track maintenance equipment to and from the single-track location is necessary, the movement shall be governed by the CTA Rail System Rule Book, SOP #8137, "Moving railborne track maintenance equipment" and any requirements included in the service bulletin issued by Rail Operations for that "unscheduled train."

3-6.11 All railborne equipment must be approved by CTA Rail Operations. No gasoline powered railborne equipment is allowed on an active and energized CTA right-of-way.

Chapter 4: General Safety Requirements for Contractors, Subcontractors, Consultants

4-1 Personal Protective Equipment and Apparel

4-1.1 Contractor personnel shall wear a CTA-approved high visibility safety vest (furnished by the contractor) at all times while on the CTA right-of-way. The safety vest shall have CTA-approved reflective stripes on both the front and back.

4-1.2 Contractor personnel shall wear Class B (non-conductive) ANSI approved hard hats during all work activities on, under, above or adjacent to the CTA right-of-way.

4-1.3 Contractor personnel shall wear suitable (natural fiber) work clothing. Short or cut off pants, sleeveless shirts or halter-tops are not permitted. Loose, ill-fitted, unfastened and unbuttoned clothing and belts with sashes or hanging pendants shall not be worn.

4-1.4 Contractor personnel shall wear suitable work shoes with a defined heel and non-slip soles. Because of the electrified third rail, steel toes or metal cleats on the sole or heel of shoes are prohibited. Shoelaces are to be kept short so they do not pose a tripping hazard. Athletic

shoes, sandals, open-toed shoes, moccasins or shoes with heels higher than one inch are not permitted.

4-1.5 Contractor personnel shall wear eye protection for all welding, cutting and specialized work activities as indicated in the contractor's Safety Management Program (SMP) and any other protective equipment in accordance with the applicable OSHA regulations. Contact lenses are not permitted.

4-1.6 Contractor personnel shall have a non-metallic, working flashlight after dark or when working in the subway.

4-1.7 The contractor shall maintain a first aid kit for employees at the work site.

4-2 Ongoing Safety Indoctrination

4-2.1 The contractor is required to provide their personnel with a project safety orientation and training session, which addresses general safety issues, and project-phase specific safety issues integrated in the Safe Work Plans (SWP) for this contract. The FTA Alcohol/Drug Rule shall be included in this safety orientation.

4-2.2 Every day the contractor shall instruct his or her employees working within the right-of-way about the danger presented by working near an uncovered electric third rail (600-volt DC) and other energized facilities, safe clearance from passing or standing trains, etc., and all reasonable precautions to protect the personnel in this environment.

4-2.3 On a weekly basis, the contractor safety representative (CSR) shall conduct, and the safety inspector shall attend, a Just in Time Training meeting with all employees assigned to a work site. The CSR shall include a step-by-step hazard analysis on the work scheduled for the following week, review all applicable Material Safety Data Sheet (MSDS) for the chemicals being used, and reiterate the hazard control practices and the importance of using the required Personal Protective Equipment and emergency response.

4-2.4 The CSR shall discuss at weekly Just in Time Training meeting(s) all new CTA service bulletins related to passenger service adjustments affecting that specific work site.

4-2.5 Contractor personnel shall report to work physically and mentally prepared to follow all safety rules included in this Safety Manual and other requirements of applicable federal, state and local safety and health laws, statutes and regulations.

4-2.6 Contractor personnel entering and working on the CTA right-of-way shall comply with FTA Substance Abuse-Free Environment Program (SAFE) (see Attachment 14). The use or possession of liquor or a narcotic of any kind on CTA property by contractor personnel while on duty or reporting for duty under the influence of it is strictly forbidden.

4-3 Safety on Rapid Transit Tracks

4-3.1 Contractor personnel shall wear the approved safety vest and proper safety equipment when working on, above or adjacent to the right-of-way and must observe the railroad basic safety rules.

- Never enter the CTA right-of-way without notifying, by radio, the rail controller for that specific rail line (see Section 3-5)
- Stop and look in both directions before crossing a track. Remain in a clear and unobstructed view and face an approaching train
- Expect trains to operate in either direction, on any track, at any time
- Step over rails, never step on any rail
- Do not allow any part of the body, any article of clothing or tools to contact the third rail or trolley blocks of rapid transit cars
- Consider the third rail to be energized at all times
- Use the footwalk, unless work requires you to walk between tracks
- Watch for moving switch points
- Stand clear of the car overhang on curves
- Stand clear of areas of no clearances
- Stand and face an approaching train and remain stationary until the entire train has passed
- Never jump from a station platform, footwalk or rapid transit car to track level
- Never run on the footwalk or at track level
- Alert all other persons in the area concerning the presence of a train

4-3.2 Contractor personnel entering the CTA right-of-way shall consider all traction power third rails and electrical feeder cables to be energized unless removal of power and proper lockout has been confirmed (by the power controller) and verified with test equipment. The construction inspector shall designate CTA personnel (electricians) for this purpose and shall ensure that such personnel are known to the contractor.

In the absence of such verification, the contractor shall maintain a ten-foot clearance from the traction power contact rail third rail and cables. If the work dictates that this clearance zone cannot be maintained, the contractor shall install physical barriers, use an approved cover for energized third rail, cable, etc., or take other safety precautions as required to ensure an adequate level of safety.

4-3.3 The contractor shall caution all employees about the presence of 600-volt DC on certain portions of the railcar undercarriage and on both sides of each train on the trolley blocks and trolley shoes (current collectors). The contractor shall take all necessary precautions to prevent any contact of personnel body parts or tools with the electrical system of an operating train.

4-3.4 Whenever the disconnection of the third rail or other energized facilities in the work area will not interfere with train operation (local isolation switches) and such disconnection is approved by Rail Operations, the contractor shall be responsible for arranging with the CTA Control Center to set up such isolation before the commencement of work. Certain portions of the work shall be performed on sections of track where rail service is suspended in order to facilitate the work. For any work occurring within a section of track to be taken out of service, the contractor shall confirm with the Authority that track within the work limits has been taken out of service and the third rail de-energized, as required, prior to beginning the work.

4-3.5 If disconnection of traction power is not feasible, the contractor shall furnish approved insulating covers or hoods to cover energized third rail, cable, etc. to protect personnel working in close proximity to energized facilities.

4-3.6 At the beginning of every shift on every day at every work site where energized third rail or feeders exist, the contractor shall instruct his or her employees about the location of the local power disconnect switches for that power section and the method of emergency disconnection available at or near to the work site.

4-3.7 Contractor personnel are not permitted to walk, step onto, rest feet on or sit on railheads, frogs, switches, guardrails, pipe, interlocking or connecting apparatus, cable boxes, etc., except when necessary for the performance of a specific required task. When crossing any of these facilities, the contractor shall take great care when stepping over equipment.

4-3.8 Practical jokes or horseplay by contractor personnel is a serious hindrance to personal safety during this type of work and shall not be permitted.

4-3.9 CTA safety practice prohibits equipment or personnel from being suspended over the right-of-way while trains are passing or standing underneath.

4-3.10 When signaled by the flagman's air horn, the contractor shall stop all activities, clear the track and, if possible, move to a location at least seven feet, two inches away from the center of the track occupied by the approaching train (outside of "No clearance beyond this point" and curve area).

When a full seven feet, two inch clearance cannot be maintained, contractor personnel shall move six foot, one inch away from the center of the track, keep their hands, feet, and loose clothing close to their body and away from the passing train. Contractor personnel shall face the oncoming train until it leaves the work site.

The contractor is responsible for ensuring that the track work site is cleared in a timely and safe fashion before notifying the flagman that it is safe to allow the train to proceed into and through the work zone.

4-4 Operation of Electrical Facilities

4-4.1 The person requesting removal of traction power due to an emergency (operator, flagman, CTA emergency K202, CPD, CFD or a contractor representative) is the only authorized person (under lockout/tagout procedure) to request restoration of power according to CTA SOP #7049, "When to Remove 600 Volt Power," (see Attachment 6). The person requesting "power off" must remain in the area (unless relieved by the proper authority) and request "power on" as soon as possible.

4-4.2 If the traction power needs to be removed locally from the Traction Power Sectionalizing Boxes, these boxes must be de-energized before the switches are operated. Only authorized CTA personnel (electrician) may open boxes, operate switches and lockout/tagout these boxes. The CTA intends to issue Power & Way service bulletins to supplement CTA rail service bulletins. The Power & Way service bulletins are intended to provide procedural guidelines for safely removing and restoring the CTA's Power & Way systems (primarily traction power & signal) within the limits defined by the contract and contractors specific track outage plan(s). The contractor will follow procedures defined within the contract documents for requesting track access occurrences.

4-4.3 If work is required inside a CTA substation, the contractor shall notify the CTA inspector and CTA project manager and obtain a substation property pass. A CTA substation attendant will meet the contractor at the substation. The contractor shall not enter a CTA substation, close any switches, or open any panels without a CTA substation attendant. The CTA substation attendant will perform these tasks, if necessary.

If work inside a substation can be expected to impact train operations, the contractor shall notify and request approval of the project manager and CTA Rail Operations at least 21 calendar days before the proposed starting date of the work.

4-5 Protection of Employees, Passengers, Trains and Facilities

4-5.1 The contractor shall take all necessary preventive measures and precautions to protect contractor employees, CTA employees and passengers, the public, property and adjacent areas from any possible injury or harmful exposure that could result from dust (lead-based paint or asbestos), debris or other contaminants created during the project activity.

4-5.2 When work is performed on or next to the track area, the contractor shall maintain the clearance envelope specified in the current CTA Design Criteria Manual-Clearance Diagram at Boarding Areas (stations) and in Clearance Diagram at Non-Boarding Areas (along the right-of-way). No exposed construction equipment, temporary wiring, piping, or other physical obstacles shall be installed or stationed in the public areas which conflict with customer safety.

4-5.3 When the construction work is performed adjacent to an active track and the work does not involve the track or the third rail, the contractor can provide an uninterrupted physical barrier (barricade), and the right-of-way allows for at least six feet high (above track or platform level) to separate the work area from operating track(s). With the barrier in place, work on the other side of the barrier may be permitted at any time without a CTA flagman and slow zone protection, provided that a rail service bulletin is issued and approved.

Such temporary barriers shall be installed as far from the operating track(s) as possible, but no closer than seven feet, two inches from the centerline of the nearest operating track. For a maximum length of 100 feet, the temporary barriers can be installed at six feet, one inch distance from the centerline of the nearest operating track if approved by CTA Safety and CTA Rail Operations. "No Clearance Beyond this Point" signs must be installed on the trackside at a height of five feet from the top of rail or platform and placed at the ends and every 25 feet on the temporary barrier. The project manager must get the approval from the CTA Rail Operations division for all the materials, location, construction and installation of the temporary barrier and the work procedures adjacent to the barrier.

4-5.4 When conducting construction activities, the contractor shall take special care to avoid causing damage, settlement or displacement of any structures, tracks or any portion thereof or interrupt the continuity of train service. Any damage to CTA facilities resulting from the contractor's activities shall be promptly replaced or repaired by the contractor to the satisfaction of the CTA project manager without additional cost to the CTA and liquidated damages may be assessed. The contractor shall, at all times, take special care to conduct operations over, on, under, adjacent to, or adjoining, the CTA right-of-way in such a manner as not to cause damage, settlement or displacement of any structures, tracks or any portion thereof. The contractor shall suspend such work until reasonable remedial measures, satisfactory to the Authority, have been taken.

The Authority shall have the right to perform any work it deems to be of an emergency nature and necessary to permit normal train operations during construction operations by the contractor. The cost of such service or emergency work provided by the Authority shall be borne by the contractor.

4-5.5 The contractor shall provide adequate protection for all electrical, signal and communication equipment from dust, debris, water, etc., through the introduction of rubber, plastic, cloth,

wood or other barriers. This protection applies to all CTA equipment located in substations, elevated structure, subways, shops, etc.

4-5.6 The contractor shall ensure that all temporary electrical (conduits, cords) and construction equipment (scaffolding, ladders) is installed and used in a manner that would not present any safety hazard to CTA employees and the public. Any additional lighting, heating or ventilation that becomes necessary is the responsibility of the contractor.

4-5.7 The contractor shall secure any loose containers, tools or other objects that could be thrown on the tracks or dislocated by the vibrations generated by a moving train. This requirement applies to all locations on the CTA right-of-way, including station platforms.

4-5.8 Whenever permanent fence, grills, grates or access panels are removed within the rail system, the CTA Control Center, the safety and construction inspector shall be notified.

4-5.9 Whenever a contractor must remove a permanent barrier, fencing, grills, grates or access panels in order to perform a required work activity, the contractor shall be responsible for properly maintaining, protecting and securing that opening throughout the work area to the standard of care provided by the permanent facility.

4-5.10 Immediately upon completion of work, the permanent barrier shall be fully restored. If the duration of work is longer than one work shift, temporary barriers/barricades that provide physical protection equivalent to the permanent barrier, shall be built. Whenever temporary barriers/barricades are erected within the rail system, the CTA Control Center, and the safety and construction inspectors shall be notified.

4-5.11 Whenev er work is done within City of Chicago, suburban or State of Illinois roadways and street property, the contractor is responsible for providing flagging personnel as required to maintain highway or road traffic operations. The contractor shall also provide all street barricades, barriers and signs that are required to maintain a safe and orderly traffic flow and meet the requirements of the Manual on Uniform Traffic Control Devices. The contractor shall also provide adequate warning in advance of such work sites to prevent any conditions or situations that could jeopardize the safety of workers at the site or the public. The contractor is required to maintain all equipment and signs in good working condition at all times.

4-5.12 Whenev er work activities demanding road closure must be performed on the CTA's elevated structure or a bridge above a public roadway, the contractor shall obtain all required lane closure permits from the applicable municipality, and shall notify the CTA project manager and construction inspector at least 21 days in advance of the lane closure. All lane closures shall conform to applicable IDOT and local municipality rules for temporary lane closures.

Chapter 5: Site-Specific Safety Requirements

5-1 Subway Sites

5-1.1 Due to the inherent danger associated with working in the confined area of a subway tunnel, the contractor shall have a fire control plan in effect at all times.

5-1.2 Before each shift on every day at every work site in the subway, the contractor shall conduct a briefing to review fire safety. This briefing shall include, but not be limited to, a review of the

locations of all emergency equipment (e.g., phones, fire extinguishers), emergency exits layout and associated instructions (see Attachments 10, 11, 12 and 13). The contractor shall specifically identify the locations and distance to the nearest available emergency exit in each direction from the work site.

5-1.3 The contractor shall not bring any toxic, flammable, strong smelling or other potentially hazardous materials or chemicals into the subway or any other enclosed area or room.

5-1.4 Electric power tools and equipment must be used when performing work in the subway.

5-1.5 Gasoline or gasoline-powered engine tools are not permitted in the subway due to the presence of 600-volts DC third rail and the potential for ignition and explosion.

5-1.6 Tools powered by diesel combustion engines may be used on a limited basis in the subway subject to approval by safety inspector. The diesel engine must be equipped with a catalytic converter and proper ventilation needs to be provided to exhaust the smoke from the subway.

5-1.7 Combustible/flammable materials including oxygen/acetylene cylinders shall not be stored in the subway at any time. The contractor shall not bring any more than a one-half workday's supply of combustible (e.g., paint, lubricants) or flammable liquids (e.g., diesel, solvent) to a subway work site. Combustible/flammable materials shall be transported in approved/labeled safety containers. The contractor shall provide sufficient fire extinguishers and trained personnel to suppress the simultaneous combustion of the maximum quantity of combustible liquids maintained at the work site.

5-1.8 Combustible/flammable waste materials or oil soaked rags shall be secured in approved safety containers and must be removed from the subway at the end of each work shift. Neither safety containers nor other materials shall be placed and stored on the emergency evacuation footwalk or within the emergency exit passageway.

5-1.9 The contractor shall review the CTA standard showing the clearance envelope required for subway trains in the tunnels and shall maintain these clearances at all times.

5-1.10 The contractor shall secure any loose containers or other objects which could be thrown on the tracks or drawn into the path of a moving train by the created suction. Empty drums or barrels are considered to be loose containers and shall be secured within a designated area. This requirement applies to all locations on the CTA rail system subways including station platforms.

5-1.11 Contractor personnel and flagmen are required to use flashlights when signaling trains in subways. The contractor shall conduct a safety briefing for contractor personnel to review proper signaling procedure prior to any work in the subway.

5-1.12 The contractor shall use only non-conductive flashlights while working on the CTA rail system.

5-1.13 Due to space constraints, the contractor shall specifically identify where contractor personnel are to relocate when signaled to clear the track and permit safe passage of train through the work area.

5-1.14 No rooms in the subways shall be opened, entered or used without approval from the construction inspector and the CTA Control Center.

5-1.15 Subway track areas are to be accessed using walkway ladders provided at designated locations along the high footwalk. Jumping from or climbing up the footwalk is not permitted.

5-1.16 Subway lighting is designed for emergency evacuation and may not be adequate for certain types of work to be performed during the project. The contractor may provide supplemental lighting at their own expense, as long as the type, power supply, attachment, placement and orientation (away from the motorcab) of the light fixtures are approved in advance by the CTA inspector and Rail Operations.

5-2 Elevated Structure and Bridges

5-2.1 The contractor's Safe Work Plan shall list all required Personal Protective Equipment, including the proper workers' health and safety procedures to be followed when working on steel structures coated with lead-based paint.

5-2.2 The contractor shall temporarily relocate and provide adequate protection for all messengered (electrical, communication or fiber optic) cable. The protection method and materials for the relocated cable shall be approved in advance by the CTA project manager.

5-2.3 When contractor personnel are working on the elevated structure from underneath and could reach above track level with their bodies or tools, a track level flagman shall be employed to support this activity and a slow zone must be set up for protection.

5-2.4 The contractor shall carefully consider the weather factors (e.g., ice, rain, snow, heat) when determining whether work activities should be undertaken on each day or shift. The final decision shall be made after consulting with the CTA construction inspector and with CTA Rail Operations.

5-2.5 The contractor shall review the CTA standard showing the clearance envelope required for CTA trains and shall maintain these clearances at all times. Contractor personnel shall exercise extreme caution on elevated track sections, always maximizing the distance to the edge of the structure.

5-2.6 Whenever contractor personnel are walking along the track, they shall remain on the footwalk. When contractor personnel must leave the footwalk, they shall exercise extreme caution to avoid tripping, falling, or losing their balance and coming in contact with the third rail. When contractor employees are walking on an elevated structure or a bridge's footwalk, they shall watch for wood boards that appear to be rotten or broken and for fiberglass panels that appear to be detached and avoid stepping on them.

5-2.7 Many elevated track footwalk sections are not equipped with guardrails or equivalent means of fall protection. Whenever the contractor is working along a section of track on the elevated structure, at a height of six feet or more, an effective personal fall protection method shall be employed (temporary handrail, individual fall protection, personnel nets, catch platforms, etc.).

5-2.8 Whenever the contractor is working on an active right-of-way in proximity to the third rail and moving trains, the use of a safety harness/lanyards as fall protection equipment shall not be utilized. The contractor shall use temporary handrail, scaffolding, decking or safety nets as fall protection.

Safety nets shall be provided when workplaces are more than 25 feet above the ground or water surface, or other surface where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety harness is impractical. When safety net protection is used, the construction activity shall not be undertaken until the net is in place and has been tested.

5-2.9 Whenever work activities must be performed on structural members or on elevated railway tracks above a street or a right-of-way, the contractor shall install debris nets under the structure or close the street.

5-2.10 Within the designated work area, the contractor shall secure any loose materials or other objects that could fall to the ground or shift into the path of a train due to vibrations from passing trains.

5-2.11 No flammable or combustible materials or debris shall be stored under the elevated structure without approval from the construction or safety inspector. Any construction staging or storage yard under the elevated structure must be enclosed at all times with a fence with a minimum height of six feet.

5-2.12 Operators of cranes or other aerial lift equipment shall be licensed and trained in the proper and safe use of that equipment by the contractor (or the subcontractor providing the lift equipment). The contractor shall maintain training records or comparable documentation of training for the crane and lift operators at the work site and provide them to the CTA safety and construction inspector upon request.

5-2.13 Only non-conductive ladders shall be used while working on or under elevated structure. The construction, installation and use of ladders shall conform to the latest edition of ANSI A14.1, "Safety Codes for Portable Wood/Fiberglass Ladders."

5-3 Ballasted Track on Embankment, at Grade or In Expressway Median

5-3.1 The contractor shall temporarily relocate and provide adequate protection for all messengered (electrical, communication or fiber optic) cable installed above the embankment retaining wall and for all buried cable. The method and protection materials for the relocated cable shall be approved in advance by the CTA project manager.

5-3.2 The contractor shall carefully consider the weather factors (e.g., ice, rain, snow, heat) when determining whether work activities should be undertaken on each day or shift. The final decision shall be made after consulting with CTA construction inspector and with CTA Rail Operations.

The contractor shall use caution when walking on slippery surfaces near an operating track, the third rail , above or adjacent to the edge of a retaining wall and an effective personal fall protection method shall be employed (individual fall protection, personnel nets, catch platforms, etc.).

Chapter 6: Special Safety Requirements

6-1 Fire Safety

6-1.1 The contractor safety representative shall instruct the contractor personnel about all applicable fire safety regulations (Chicago/Local Building Code, NFPA Standards) associated with working on, adjacent or in close proximity to an operational CTA right-of-way. Contractor personnel shall comply with those regulations.

6-1.2 The contractor shall provide and use UL-approved safety cans for all flammable liquids with a flash point of 110 degrees Fahrenheit or below.

6-1.3 The contractor shall not maintain any more than one-half day's supply of combustible/flammable liquids at a work site. The contractor shall provide sufficient fire extinguishers to suppress the simultaneous combustion of the maximum quantity of combustible/flammable liquids that can be maintained at the work site. Whenever combustible liquids are present at a work site, the contractor shall provide sufficient personnel at the work site who are trained to use those extinguishers.

6-1.4 The contractor shall develop and implement a hot work procedure as part of Safe Work Plan. All welding and cutting apparatus, equipment and operations shall be in accordance with the requirements set forth in the current edition of ANSI Z49.1, "Safety in Welding and Cutting" standard.

6-1.5 Prior to welding, flame cutting, or other operations involving the use of open flames, arcs, or sparking devices, permission must be requested and granted by the CTA construction inspector. Portable welding screens and shields shall be used to protect other workers and the public in the immediate area.

6-1.6 Approved fire extinguishing equipment must be readily available at the location when welding and cutting is being carried out. When welding, cutting and heating is such that normal fire prevention precautions are not considered adequate, trained fire guards or fire watches shall be assigned and maintained for a minimum of 30 minutes following the completion of work.

6-2 Confined Space Area Activity

6-2.1 Work within confined spaces (e.g., manholes, ventilation shafts, areas of restricted accessibility or limited ventilation) requires special precautionary measures. If entry into a permit-required confined space is necessary, it shall be directly supervised by the contractor's qualified person (attendant). OSHA and CTA safety rules applicable to confined space entry shall apply.

6-2.2 The construction inspector shall provide the contractor with all available information about the particular CTA confined space (voltage ratings, asbestos, etc.). The contractor safety representative (CSR) shall authorize the plans to enter any permit-required confined space prior to entry.

6-2.3 Before entering the confined space, the contractor shall have issued emergency preparedness plans should the environmental conditions become inappropriate.

6-2.4 The air quality within the permit-required confined space shall be verified prior to entry and monitored during the work period by the contractor personnel working in the permit-required confined space.

6-2.5 A contractor's qualified person (attendant) shall remain outside of the confined space at the entry point and maintain constant communications with those inside the confined space.

6-2.6 In those instances, where electrical service is required in the confined space, low voltage (24 V) lighting or a ground fault circuit interrupter (GFCI) shall be used. If a GFCI is used, the unit must be outside and isolated from the confined space unit. Caution must be taken to ensure that the area is free of all electrical hazards.

6-3 Vermin Control

6-3.1 When the contractor is working in an area where vermin may exist, the contractor shall provide protection against the dangers associated with the vermin, including the following controls:

- Boots, gloves, or other Personal Protective Equipment as required
- Instruction in recognition and identification
- Repellents
- Communication for reporting of the location of nests

6-3.2 The contractor shall report to the CTA construction inspector any unsanitary conditions at the work site that have proliferated or could flourish insects or vermin.

Chapter 7: Security Requirements

7-1 Security Control

7-1.1 Site security and control: The contractor shall outline its plan for site security including prevention of unauthorized entry onto the project site and prevention of vandalism. The plan shall include all contractually-required security items. This plan shall include, when necessary: use of fencing, temporary enclosures, concrete barricades, surveillance cameras, signs, guard services and worker identification such as hats, shirts or vehicle stickers.

7-1.2 Post No Trespassing signs. This will also assist the police in cases where persons are arrested for unlawful entry.

7-1.3 The contractor shall provide for clearly-marked construction zones and transition zones, informing both contract workers and CTA employees upon entering construction areas and what Personal Protective Equipment is required.

7-1.4 The contractor shall prevent incidents within control and responsibility, effectively protecting CTA critical assets. Maintain on site, telephone numbers of emergency agencies and key project personnel.

7-1.5 The contractor shall prepare respond procedures to construction site incidents and accidents for the prevention, mitigation loss and protection of CTA and contractor employees and passengers from incident.

7-1.6 The contractor shall support emergency responders in incident response. Assess response readiness by conducting drills and exercises. Designate gathering areas in response to an incident.

7-1.7 The contractor shall design work to incorporate security features. Incorporate security principles into the design of new stations, systems, etc., including eliminating dead areas, providing adequate lighting, constructing gathering areas that are easy to monitor, facilitating ability for natural surveillance with lines-of-sight for CTA employees, installation of

communications equipment, such as payphones and access buttons, to provide access to assistance, using materials that allow for clear lines-of-sight, however, do not provide climbing access to other secured areas. (Do not disable pre-existing security equipment without checking with the CTA's Office of Security first.)

7-1.8 The contractor shall conduct system-wide security assessments to identify and eliminate or lessen potential security concerns during construction. Reviewing activities and new plans to determine how they impact the security for the areas as the work progresses.

7-1.9 The contractor shall communicate security concerns or incidents to the CTA.

7-1.10 The contractor shall promote security awareness to employees, including CTA employees who visit the work area.

7-1.11 The contractor shall report all incidents criminal in nature to the police and obtain a police report number. Also report all criminal incidents to the CTA project manager.

7-1.12 The contractor shall ensure that all equipment and facilities are properly secured at the end of each workday.

Chapter 8: Enforcement Of Safety Rules

8-1 Enforcement Of Safety Rules

8-1.1 The contractor safety representative is responsible for promoting safe work practices by contractor personnel. The contractor safety representative is also responsible for implementing the contractor's Safety Management Program (SMP) and enforcing the strict compliance of contractor (and subcontractor) personnel with the safety rules and procedures contained in or referenced in this Manual.

8-1.2 The safety inspector is the Authority's representative at the project (construction) site and is authorized and responsible for monitoring and auditing contractor work activities for strict compliance with the safety rules and procedures contained or referenced in this Manual.

To meet these responsibilities, the safety inspector shall have access to the project (construction) site at all times throughout the life of the project. The contractor is subject to unannounced field audits or inspections by the CTA safety inspector, construction inspector or management personnel from Rail Operations.

8-1.3 Whenever noncompliance with safety rules is found, the CTA safety or construction inspector or personnel from Rail Operations shall document that deficiency on a CTA Unusual Occurrence Report (see Attachment 9) or Safety Inspection Report, submit the original report to the contractor to take immediate corrective action, and submit copies to the project manager and to CTA System Safety. The safety inspector has final approval over the resolution and satisfactory closure of each deficiency.

8-1.4 If the CTA safety inspector determines that the contractor or contractor personnel have committed serious or repeated violations of the safety rules or procedures contained in or

referenced in this Manual or the contractor has failed to take prompt and decisive corrective action on safety deficiencies identified at the work site, the safety inspector shall have the power to terminate work by the contractor and direct the contractor to close and secure the work site.

8-1.5 The construction inspector is responsible for ensuring that any incidents or deficiencies involving CTA flagman at work sites are reported to the CTA Control Center immediately and after each work shift to Rail Operations division (see SOP #7037, "Flagging on the Right-of-Way").

8-1.6 The construction inspector is responsible for defining the limits of the work zone. In addition, the construction inspector is responsible to notify immediately the Control Center whenever the work zone and the flagman are moved along the right-of-way.

8-1.7 The construction inspector is responsible for informing the project manager of any change or substitution of a material, equipment or procedure proposed by the contractor that was not included in original documentation of the project. The project manager shall determine whether the change or substitution introduces any safety hazard and shall inform the CTA construction inspector of any approved change or substitution.

Chapter 9: Reporting Procedures

9-1 Reporting Injuries and Requesting Assistance

9-1.1 The contractor shall be alert for dangerous conditions and unsafe work practices as part of their daily work routine. The contractor shall immediately address any conditions or practices that require correction to prevent injury or other harm.

If immediate corrective action by the contractor is not possible but the hazard warrants immediate attention, the contractor shall notify the CTA Control Center by telephone or by the CTA flagman or Combined Rail Operators (CRO) radio. In addition, the contractor shall complete a report documenting the dangerous condition and forward it promptly to the CTA safety inspector for appropriate action.

If an ambulance is necessary, the contractor shall call 911 or telephone the CTA Control Center to make the necessary arrangements for assistance. **The CTA Control Center can be contacted 24 hours/day by telephone: (312) 432-8030, or CTA phone extensions 28030 or 28040 or by CTA Radio: call # K347.**

9-1.2 In emergencies requiring removal of traction power, the CTA flagman or contractor's representative at the work site shall contact the CTA Control Center, specify the message "emergency power off," the location, the type of emergency, the type of assistance required and the requester's name, phone/call number and badge number. The Control Center will remove traction power from that contact rail section (see CTA SOP #7049, "When to Remove 600 Volt Power" in Attachment 6).

9-1.3 For first aid injuries not requiring a physician's treatment, the contractor shall prepare a contractor's report of the injury and forward it to the CTAs inspector at the end of the shift or day. Injuries requiring in hospital or physician treatment or resulting in lost time shall be reported by the contractor immediately to the CTA safety inspector.

9-1.4 For all injuries, the contractor shall be responsible for conducting an accident investigation, issuing an accident investigation report, submitting a copy to the CTA safety inspector within 24 hours and processing the required paperwork to the insurance carrier.

9-1.5 The contractor shall also be responsible for completing and maintaining the OSHA 300 Log at the work site for the CTA safety inspector's review according to the contractor Safe Work Plan.

9-1.6 The contractor must report all rail "near misses" to the CTA safety inspector at the end of each shift or day for review and appropriate corrective action.

Flagmen Requirements

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Safe Work Practices are mandatory when performing any work on or adjacent to the Rail System right-of-way. Whenever these tasks require flagging protection, this guide is to be used to determine the **minimum** number of CTA flagmen and Slow Zones, which are required. It is mandatory that all CTA employees and contractors (contractors must use CTA flagmen) follow these requirements for flagmen protection. In addition, all work must be performed in accordance with applicable Standard Operating Procedures, Rail Service Bulletins and Departmental Safety and Operating rules.

If there are any questions regarding these requirements, contact your immediate supervisor to arrange for a field evaluation of the area with representatives of Rail Operations, Rail Instruction and Safety.

7-6-07

J.A. Hruby
Vice President
Transit Operations

FLAG ZONE INDEX

The entire Rail System has been divided into 198 flag zones. These flag zones are based upon which Rail Terminal has the responsibility of providing flagmen. The Flag Zone numbers emulate train run numbers assigned to the Terminal supplying the Flagmen (except for the loop). For easy identification, all Flag Zones are listed on a "Flag Zone Index" chart.

This Flag Zone Index identifies each Flag Zone by:

1) Flag Zone Number
2) Location (limits of the zone)
3) Number of tracks
4) Track Characteristics/Special Conditions
5) Rail Stations within the flag zone
6) Flagmen Requirements based on:

    a) The number of tracks fouled.
    b) Track number where work is being performed.
    c) Minimum number of flagmen required.

FLAGMEN REQUIREMENTS

Flagmen requirements are determined by one of two methods, Tracks Fouled or Track Numbers.

Determining Flagmen Requirements using "Tracks Fouled" Method

Tracks Fouled is defined as the placement of an individual or an item of equipment in such proximity to a track that a moving train could strike the individual or equipment. This also includes the area where workers relocate to clear the track upon the approach of a train. (Note: climbing or jumping up to a Rail Station Platform is not an acceptable method of clearing a fouled track). Flagmen requirements are normally determined by this method. To determine the minimum number of flagmen required, ascertain how many tracks will be fouled, then refer to the Tracks Fouled portion of the Flag Zone Index for the minimum number of flagmen required.

Determining Flagmen Requirements using "Track Numbers" Method (used only in areas of multiple tracks - four or more)

Track Number is defined as a specific number or letter used to identify a specific track. This method is used when work is performed in an area of multiple tracks (four or more).

When work is performed on one track in areas of four or more tracks, the track number portion of the Flag Zone Index is used to determine the minimum number of flagmen required.

When work is performed on more than one (1) track in areas of four (4) or more tracks, the track fouled portion of the Flag Zone Index Chart is used to determine the minimum number of flagmen required.

FLAG ZONE MAP

A Flag Zone map has been developed as a graphic aid identifying the limits of flagging zones and noting special track conditions. The maps are based on Rail Terminal Flagmen Assignments.

PROCEDURE FOR ORDERING FLAGMEN

Work Site Inspection

Before flagmen are ordered, **the person immediately in charge of the work** (in cases of outside contractors - a construction inspector or building inspector) is required to conduct an on-site evaluation of the work site. The purpose of this inspection is to determine which flag zones the work will be performed in. Upon review of the work area, consult the "Flag Zone Guide" to determine the minimum number of flagmen required. If work is performed in two or more flag zones, the flag zone shall govern the minimum number of flagmen ordered with the highest /largest number of flagmen. **Taking a track out of service with a Service Bulletin may reduce the total number of flagmen required.** To take a track out of service, a completed "Single Track/Reroute Request" form must be submitted to the Office of the Vice President, Rail Operations at least 14 days in advance of the scheduled work. Whenever possible, the person in charge should request a Transportation Manager to attend the work site inspection.

Once, the minimum number of flagmen is determined, contact the Rail Control Center Clerk *(for work charged to Function Numbers or Operations)* or the Capital Improvement Project Clerk *(for work charged to Capital Accounts or Job Orders)* to place a flagmen order. When placing the flagmen order, provide the clerk with following information:

1) Flag Zone Number where work will be performed. *(NOTE: If work is performed in two or more flag zones, the minimum number of flagmen ordered shall be governed by the flag zone with the highest number of flagmen).*

2) The location and type of work to be performed.

3) Tracks fouled by the work.

4) The track(s) where work will be performed.

5) The minimum number of flagmen required *(governed by the flag zone with the highest number of flagman),* including projected number of days and times flagmen will be required.

6) The meeting time and location where flagmen are to report for work.

7) The person in charge of the work, including CTA radio call sign.

Once this information is given to the clerk, the clerk will assign an order number for that job. Record the number and use it for all future reference for that job. When canceling the flagmen order, provide the clerk with the order number in order to properly cancel it.

If there are any questions regarding these requirements, contact your immediate supervisor to

arrange for a field evaluation of the area with representatives of Rail Operations, Rail Instruction and Safety.

Rail Control Center Clerk and Capital Improvement Clerk

Upon receipt of the flag order request and all necessary information, the clerk will:

1) Assign an order number.

2) Prepare the proper "Rail Operations Order" form.

3) Complete pertinent information including the amount of **tracks fouled, track number where work is to be performed, Flag Zone Number, number of flagmen and number of days flagmen will be required.**

4) Using the Flag Zone Index, check that the correct minimum numbers of flagmen are being ordered.

5) Execute the flag order by notifying the appropriate Terminal Clerk by telephone and fax a copy of the completed Rail Operations Order. Note: if unable to fax a copy of the Rail Operations Order, send a copy in the CTA departmental mail.

Terminal Clerk

Upon receipt of flag order, the clerk will:

1) Prepare the proper "Rail Operations Order" form.

2) Complete pertinent information including the amount of **tracks fouled, track number where work is to be performed, Flag Zone Number, number of flagmen and number of days flagmen will be required.**

3) Using the Flag Zone Index, check that the correct minimum numbers of flagmen are being ordered.

4) Execute the flag order by assigning the correct number of flagmen.

Transportation Manager

The Transportation Manager must verify that flag orders are in compliance with the Flag Zone index. All orders must be reviewed by a Transportation Manager and authorized by signature including date and time.

Canceling Flagmen Orders

Upon completion of work, the person in charge of the work area shall contact the appropriate Clerk and cancel the flag order by noon of the previous day when flagmen are no longer required for that job.

General

Rail Operations Management and Supervisors must periodically check all Slow Zones.

Definitions

Abutment – Earth retaining structures (typically concrete) which support slabs, stringers, trusses or girders.

Bent - a structure consisting of two or more columns and one or more cross girder segments supporting track or platform stringers.

Bent Number (#) - the unique identification number of a bent

Catenary - an overhead wire from which a transit vehicle collects 600 volt D.C. power.

Clearance - The distance between specified points along the tracks and specified points on a moving vehicle.

Clearance Diagram - a diagram that establishes the minimum safe distance between all points on a moving vehicle and fixed wayside structures or appurtenances.

Crossover - two turnouts, with track between the frogs, arranged to allow a continuous passage of trains between two parallel tracks.

Flagman - an employee designated to control the movement of trains by the display of hand signals, flags or lights.

Flagman, Relay - an additional flagman positioned to coordinate the safe movement of trains through a work area.

Flag Zone - a segment of track with definite boundaries.

Flag Zone Index - a chart identifying each flag zone by the 1) Flag Zone Number, 2) Location (limits of the flag zone), 3) Number of tracks, 4) Track Characteristics/Special Conditions, 5) Rail Stations within the flag zone and 6) Flagmen Requirements.

Flag Zone Map - a map of areas of a rail line illustrating the limits of flag zones.

Flag Zone Number - a unique number identifying a specific flag zone.

Fouling a Track (track fouled) - the placement of an individual or an item of equipment in such proximity to a track that the individual or equipment could be struck by a moving train. This would also include the area where workers clear to on the approach of a train on the track that they are working on/adjacent to on the approach of a train.

Interlocking - a powered group of switches, locks and signals through a junction, cross-over or crossing, so arranged, as to permit train movements without conflict.

Junction - a location where train routes converge or diverge.

Out of Service Track - a section of track authorized by a Service Bulletin or Rail Control that no trains (revenue or non-revenue) may operate on *(may require the installation of a portable track trip and may require the removal of traction power).*

DEFINITIONS (continued)

Portable (flagman's) Track Trip - a portable device, installed on the running rail with a removable trip arm, which causes a penalty brake application on a train when it is struck by the train side trip.

Relay Flagman, *see Flagman, Relay*

Revolving Amber Warning Lights - a device that operates when reverse train operation is established with cab signal protection (O'Hare - from Jefferson Park to Rosemont and North Mainline on tracks 3 & 4 from Addison Interlocking to the north end of Clark Junction).

Service Bulletin - an instructional bulletin that is used for planned irregular train operation - format used for removal of a track from service.

Signal - a device conveying information affecting movement of a train.

Signal Bond Marker – a sign designating the nearby track circuit number and change in allowable train speed.

Signal Number Plate (or Signal #) - A plate containing letters or numbers distinctive for each signal, attached to that signal or signal bond.

Slow Zone - a series of signs establishing a segment of track where trains must operate at a reduced speed due to workers on the right-of-way, track & structure conditions, or other reasons that trains must operate at a reduced speed.

Switch - a pair of switch points with their fastenings and operating rods providing the means for establishing a route from one track to another

Switch Point - a moveable tapered track rail, the point of which is designed to fit against the stock rail.

Turnout - an arrangement of a switch and frog with closure rails by means of which trains may be diverted from one track to another.

Third Rail - a rail mounted on insulators alongside the running rail which provides traction power for train operation.

Track Markers – signs posted at 100' intervals to indicate route and track.

Workers Ahead Warning System - a flashing yellow light which alerts operators that workers are present on or near the track ahead in certain areas of limited visibility and in cab signal territory may reduce the maximum allowable train speed by one or more increments.

ABBREVIATIONS

NB - northbound
Trks - tracks

SB - southbound
RF - Relay Flagman

No. or # - Number

Flag Zone Index - Howard Terminal - Dempster to Howard North Interlocking/Yellow Line

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
551	Dempster to the north side of Oakton Street	2	Ballasted tracks with wide track centers, the 2 tracks route into a tail track north of Skokie Station. Includes Niles Center, Main, & Searle Grade Crossings and a pedestrian grade crossing at the north end of the station. 600 volt Traction Power distributed from overhead Catenary. Includes Skokie Station platforms which are outside type	Skokie	1	-	1
					2	-	2
552	Oakton Curve - from Oakton to the north (west) side of Kostner Avenue	2	Ballasted track in curve with restricted visibility includes Oakton Grade Crossing. 600 volt Traction Power distributed from overhead Catenary.	-	1	-	2
					2	-	3
553	Kostner to Hamlin	2	Ballasted track with wide track centers includes Kostner, Crawford & East Prairie Grade Crossings. The transition from overhead Catenary to 3rd rail is between East Prairie & Crawford.	-	1	-	1
					2	-	2
554	Hamlin to Howard North Interlocking at Signal X-30 & X-32	2	Ballasted track leading to open deck elevated structure constructed on an 850-foot length bridge over McCormick Blvd & North Shore Channel. Descending into ballasted track in a open cut with continuous curves	-	1	-	2
					2	-	2

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Index - Howard Terminal - Linden to Howard North Interlocking/Purple Line

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
501	Linden Terminal to north abutment of the North Shore Channel Bridge	2	Ballasted tracks, includes Isabella and Maple Grade Crossings. The north portion of the zone is within the confines of Linden interlocking. Linden Avenue Station platform is an island type. Includes Isabella and Maple Grade Crossings, which includes barnyard gates at track level.	Linden	1	-	1
					2	-	2
502	North Shore Channel Bridge – from the north abutment to the south abutment	2	Open deck elevated tracks constructed on bridge over the North Shore Channel	-	1	-	2
					2	-	2
503	South abutment North Shore Channel Bridge to the north end of Noyes Station Platform	2	Ballasted tracks, Central Station platform is an island type.	Central	1	-	2
					2	-	3
504	Noyes to north end of Davis Station platform	2	Ballasted tracks, Noyes & Foster Station platforms are island types.	Noyes Foster	1	-	1
					2	-	2
505	Davis Curve - Davis Station to Grove (1 block south of Davis)	2	Ballasted tracks in a curve with restricted visibility. Davis Street Station platforms are outside type	Davis	1	-	2
					2	-	3
506	Grove to Mulford Street (north end of Chicago Avenue Curve)	2	Ballasted tracks, Dempster & Main Street Station platforms are outside type and South Blvd. Station platform is an island type.	Dempster Main South Blvd.	1	-	2
					2	-	2
507	Chicago Avenue Curve – from Mulford to Howard North Interlocking at Signal X-34	2	Ballasted tracks on 2 separate curved bridges over Howard Yard with a significant grade.	-	1	-	2
					2	-	3

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Index - Howard Terminal - Linden to Howard North Interlocking/Purple Line

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
501	Linden Terminal to north abutment of the North Shore Channel Bridge	2	Ballasted tracks, includes Isabella and Maple Grade Crossings. The north portion of the zone is within the confines of Linden interlocking. Linden Avenue Station platform is an island type. Includes Isabella and Maple Grade Crossings, which includes barnyard gates at track level.	Linden	1	-	1
					2	-	2
502	North Shore Channel Bridge – from the north abutment to the south abutment	2	Open deck elevated tracks constructed on bridge over the North Shore Channel	-	1	-	2
					2	-	2
503	South abutment North Shore Channel Bridge to the north end of Noyes Station Platform	2	Ballasted tracks, Central Station platform is an island type.	Central	1	-	2
					2	-	3
504	Noyes to north end of Davis Station platform	2	Ballasted tracks, Noyes & Foster Station platforms are island types.	Noyes Foster	1	-	1
					2	-	2
505	Davis Curve - Davis Station to Grove (1 block south of Davis)	2	Ballasted tracks in a curve with restricted visibility. Davis Street Station platforms are outside type	Davis	1	-	2
					2	-	3
506	Grove to Mulford Street (north end of Chicago Avenue Curve)	2	Ballasted tracks, Dempster & Main Street Station platforms are outside type and South Blvd. Station platform is an island type.	Dempster Main South Blvd.	1	-	2
					2	-	2
507	Chicago Avenue Curve – from Mulford to Howard North Interlocking at Signal X-34	2	Ballasted tracks on 2 separate curved bridges over Howard Yard with a significant grade.	-	1	-	2
					2	-	3

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Index - Howard Terminal - Howard to Clark Junction/Red Line North

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
804	Jarvis to Greenleaf	4	Raised embankment ballasted tracks in a curve with restricted visibility.	-	-	1	3 - 1 RF
					-	2	3 - 1 RF
					-	3	3 - 1 RF
					-	4	3 - 1 RF
					3	-	5 - 2 RF
					4	-	6 - 2 RF
805	Green Leaf to south end of Morse Station Platform	4	Raised embankment ballasted tracks with wide track centers between tracks #2 & #3, Morse Station Platform is an island type and is located between tracks #2 & #3.	Morse	-	1	2
					-	2	2
					-	3	2
					-	4	2
					3	-	3
					4	-	4
806	Morse to the north end of Granville Interlocking at following signals: Track #1 -X-2R Track #2 -X-6R Track #3 -X-6L Track #4 -X-8L	4	Raised embankment ballasted tracks, in a high-speed reverse curve with restricted visibility. Loyola Station platform is an island type and is located between track #2 & #3.	Loyola	-	1	3 -1 RF
					-	2	3 -1 RF
					-	3	5 -3 RF
					-	4	5 -3 RF
					3	-	5
					4	-	6
					4	-	4

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Index - Howard Terminal - Howard to Clark Junction/Red Line North

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
807	Granville Interlocking to Leland	4	Raised embankment ballasted tracks with wide track centers between tracks #2 & #3. Granville, Thorndale, Bryn Mawr, Berywn, Argyle and Lawrence Station platforms are island type and are located between by tracks #2 & #3.	Granville Thorndale Bryn Mawr Berywn Argyle Lawrence	-	1	2
					-	2	2
					-	3	2
					-	4	2
					3	-	3
					4	-	4
808	Leland to Irving Park	4	Raised embankment ballasted tracks leading to open deck elevated structure. Wilson Station platform is an island type between tracks #2 & #3 . An additional not in service platform is located between track #3 & #4 which creates a **NO CLEARANCE AREA THE ENTIRE LENGTH OF THE PLATFORM.** Another platform not is service is located along track #1. Track #1 features a curve with restricted visibility.	Wilson	-	1	2
					-	2	3
					-	3	3
					-	4	2
					3	-	3
					4	-	4
809	Irving Park Curve	4	Open deck elevated tracks, with a curve with restricted visibility. **NO CLEARANCE AREA IN CURVE.**	-	-	1	3 -1 RF
					-	2	4 -1 RF
					-	3	4 -1 RF
					-	4	3 -1 RF
					3	-	5 -2 RF
					4	-	6 -2 RF

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Index - Howard Terminal - Howard to Clark Junction/Red Line North

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
810	Sheridan Road Station	4	Open deck elevated tracks, Sheridan Road Station platforms are island types between track #1 & #2 and #3 & #4 (the area in the station on tracks #2 and #3 is also between platforms).	Sheridan Road	-	1	3 -1 RF
					-	2	4 -1 RF
					-	3	4 -1 RF
					-	4	3 -1 RF
					3	-	5 -2 RF
					4	-	6 -2 RF
811	Sheridan Road Curve to Grace Street	4	Open deck elevated tracks, with a curve at south end of station with restricted visibility. **NO CLEARANCE AREA IN CURVE.** Another curve with restricted visibility is located north or Grace Street. **NO CLEARANCE AREA IN CURVE.**		-	1	3 -1 RF
					-	2	4 -1 RF
					-	3	4 -1 RF
					-	4	3 -1 RF
					3	-	5 - 2 RF
					4	-	6 - 2 RF

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone No.	Location	No. Trks	Track Characteristics Special Conditions	Stations	Flagman Requirements		
					Tracks Fouled	Track No.	Flagman
812	Grace Street to north end of Addison Station Platform	4	Open deck elevated tracks, includes Addison Interlocking.	-	-	1	2
					-	2	3
					-	3	3
					-	4	2
					3	-	3
					4	-	4
813	Addison Station	4	Open deck elevated tracks, tracks #1 & #2 are constructed on a concrete bed with direct fixation fasteners. Track #1 curves away from the station. Addison Station platform is an island type and is located between tracks #2 & #3. **NO CLEARANCE BETWEEN TRACK #1 AND RETAINING WALL TO THE WEST OF THE STRUCTURE.**	Addison	-	1	2
					-	2	2
					-	3	2
					-	4	2
					3	-	3
					4	-	4
814	Addison Station to Clark Junction at the following signals: Track #1 - X-4 Track #2 - X-2 Track #3 - X-10 Track #4 - X-12	4	Open deck elevated tracks, includes curve with restricted visibility at Newport. **NO CLEARANCE AREA IN CURVE.**		-	1	2
					-	2	3
					-	3	3
					-	4	2
					3	-	3
					4	-	4

NOTE: *A pre-job inspection is required by the Person in Charge of the Work Area to insure that the proper number of flagmen & slow zone equipment is ordered.*

Flag Zone Map - Howard Terminal - Purple, Yellow and Red Line North to Clark Junction

FLAG ZONE MATRIX

Line	Terminal	Flagman Boundaries	No. of Flag Zones	Track Type	Stations
Blue	O'Hare	O'Hare to LaSalle Crossover/Dearborn Subway	38	Subway, Ballasted & Open Deck	19
	Forest Park	Forest Park to LaSalle Crossover/Dearborn Subway	17	Ballasted & Subway	14
	54th	54th to Loomis Junction & Connector Track	11	Ballasted & Open Deck	11
Brown	Kimball	Kimball to Wacker/Wells	28	Ballasted & Open Deck	19
Green	Harlem	Harlem to Wacker/Lake	7	Raised Embankment & Open Deck	12
	63rd/Ashland	63rd/Ashland to 59th Junction (Englewood)	7	Open Deck	2
		63rd/Cottage Grove to 59th Junction (Jackson Park)	2	Open Deck	2
		59th Junction to 17th Junction (South Main) & 13th Interlocking	2	Open Deck	6
Orange	Midway	Midway to Congress Crossover. Access is restricted per Service Bulletins R648-93 & R695-93 from Midway to 17th Junction.	27	Raised Embankment, Ballasted & Open Deck	8
		Loop	10	Open Deck	9
Red, Purple & Yellow	95th	95th to north abutment State Street Subway	16	Ballasted & Subway	13
	Howard	Howard to Clark Junction (North Main)	14	Raised Embankment & Open Deck	13
		Skokie to Howard (Skokie)	4	Ballasted & Open Deck	1
		Linden to Howard (Evanston)	7	Ballasted & Open Deck	8
Totals	-	-	**198**	-	**142**

APPENDIX A

RAIL SERVICE BULLETINS

- Flagman Boundaries (Bulletin # R500-99)
- Slow Zones (Bulletin # R501-99)
- Employees on Right-Of-Way - Orange Line(Bulletin # R502-99)
- Employees on Right-Of-Way - Orange Line(Bulletin # R503-99)
- Permanently Mounted Track Trip Bases - O'Hare Subway (Bulletin # R504-99)
- Workers Ahead Warning System Locations (Bulletin # R0106-06)
- Flagging Assignments (Bulletin # RJ07-05)
- Employees On Right-Of-Way (Bulletin # R50-02)

Transit Operations
Rail Operations

Post	x	Type	454 W
R500-99			

Rail Service Bulletin

Supersedes R350-96

Subject: Flag Zone Boundaries

Line/Route: System Wide

Effective: Wednesday, December 1, 1999

Listed below are the assigned boundaries for flagmen system-wide:

Line	Route	Zones	Boundaries	Terminal
Purple	Evanston	501-507	Howard to Linden	Howard
Yellow	Skokie	551-554	Howard to Skokie	Howard
Red	North Mainline	801-814	Howard to Clark Junction	Howard
	Dan Ryan & State Subway	901-908	95th to 13th Junction & HDR Connecting Track	95th
		909-916*	13th Junction to Wisconsin Avenue	
Blue	O'Hare/Kennedy & Dearborn Subway	101-131	O'Hare to North Abutment Dearborn Subway	O'Hare
		132-138*	North Abutment to LaSalle/Congress	
	Congress	201-214	Forest Park to Dearborn Subway Portal	Forest Park
		215-216*	Dearborn Subway Portal to LaSalle/Congress	
	Douglas	301-310	54th to Loomis Junction	54th
		311	Blue/Green Line Connector Track	
Brown	Ravenswood Branch	401-413	Kimball to Clark Junction	Kimball
	North Mainline	414-416	Clark Junction to Willow Curve/Wisconsin Ave.	
	Ravenswood Loop	417-428	Willow Curve to Wacker/Wells	
Green	Lake Street	001-007	Harlem/Lake to Wacker Drive	Harlem
	Englewood Branch	601-607	63rd/Ashland to 59th Junction	63rd/Ashland
	Jackson Park Branch	626-628	63rd/Cottage Grove to 59th Junction	
	South Mainline	651-657	59th Junction to 17th Junction	
	South Incline	658-659	17th Junction to 13th Junction	
Orange	Midway	701-722	Midway to 17th Junction	Midway
	South Loop Connector	723-727	Federal Junction to 12 Tower	
	Loop Elevated	06-20*	Van Buren, Wabash, Lake and Wells.	
	Green Line Lake Street	22*	18 Tower to Wacker/Lake	
	Brown Line Wells Street	24*	18 Tower to Wacker/Wells	

*Will be filled from an alternate terminal when qualified personnel are not available.

William R. Mooney
Vice President,
Rail Operations

Chicago Transit Authority
Transit Operations
Rail Operations

File	x	Special	x
Post	x	Type	w
R501-99			

Rail Service Bulletin

Supersedes R259-97

To: All Concerned

Subject: Slow Zones

Line/Route: System Wide

Effective: Wednesday, December 1, 1999

No workers or flagmen, working in a slow zone, are to be allowed on the tracks if the slow zone is improperly set up. If a Slow Zone is found to be improperly set up, the following actions must be taken:

- All personnel at the work site must leave the tracks immediately.
- The condition must be reported to Communication/Power Control (C/PC).
- C/PC will dispatch the nearest Rail Supervisor, Rail Instructor or Transportation Manager to the scene.
- The Rail Supervisor, Rail Instructor or Transportation Manager responding to the scene will evaluate the situation and make any corrections required to bring the Slow Zone into compliance with the established standards and procedures.
- C/PC will notify Occupational Safety and Investigations of the incident.

Unsafe Track Condition

If the person in charge (inspector, foreman, roadmaster, etc.) deems the track unsafe for train traffic, all train movements over that portion of track must be curtailed.

William R. Moore
Vice President,
Rail Operations

WM/LS/ls
R501-99
11-17-99

Chicago Transit Authority
Transit Operations
Rail Operations

File	x	Special	x
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R502-99			

Rail Service Bulletin

Supersedes S648-93

To: All Concerned

Subject: Employees On Right-Of-Way

Line/Route: Orange/Midway

Effective: Wednesday, December 1, 1999

Due to clearance restrictions on the Midway portion of the Orange Line, no employee will be permitted on the right-of-way between Federal Junction and Midway Terminal, regardless of reason, without authorization from Communication/ Power Control. To obtain authorization, before entering the tracks, employees must:

1. Have a two way radio with the capability of transmitting on channel 2 or channel 6.
2. Provide the Controller with the following information:
   - the work location;
   - length of time needed to be at that location;
   - the method of getting to the location (walking, riding a train, be lifted up by snorkel, etc).
3. Inform the Controller when the right-of-way has been cleared.

When granting authorization, the Controller must alert every approaching train until the person(s) have cleared the right-of-way. Likewise when passing a person(s) on the right-of-way, operators must inform the Rail Controller of the exact location where the person was passed.

Should it be necessary to change a work location, these procedures must be repeated.

Access to the right-of-way can only be authorized by a Controller when an emergency condition exists requiring immediately attention. Under all other situations access to the right-of-way is either authorized by a Rail Service Bulletin or, during the hours when no revenue service is scheduled by the Track Maintenance Roadmaster as described in bulletin R503-99.

William R Mooney

Vice President,
Rail Operations

WM/LS/ls
R502-99
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File	x	Special	x
Post	x	Type	w
R503-99			

Rail Service Bulletin

Supersedes S695-93

To: All Concerned

Subject: Employees On Right-Of-Way

Line/Route: Orange/Midway

Effective: Wednesday, December 1, 1999 - 0030 to 0430 Hours

CTA Maintenance personnel will be working at various locations on the Midway portion of the Orange Line between Federal Junction and Midway Terminal. Daily, between 0030 and 0430 hours, after the last revenue train has returned to Midway Terminal, the Midway Track Roadmaster, radio call K440 on channel 2, will arrange with Communication/Power Control to take out of service the sections of track in the area were the employees will be working. In addition, the Roadmaster will coordinate and be responsible for all other employees needing access to the right-of-way.

In the event the operation a non-revenue train is required, the Roadmaster must ascertain that all personnel have cleared the right-of-way before allowing the tracks to be returned to service.

All personnel or groups involved in these activities must be equipped with radios and whenever possible, a portable telephone.

No one will be permitted on the right-of-way during these hours unless the track has been taken out of service.

All personnel must be clear the right of way by 0430 hours.

The conditions outlined in this bulletin only apply between 0030 and 0430 hours. At all other times, employees needing access to the right-of-way must follow the procedures in bulletin R502-99.

William R Mooney
Vice President,
Rail Operations

WM/LS/ls
R502-99
11-19-99

Chicago Transit Authority
Transit Operations
Rail Operations

File	x	Special	x
Post	x	Type	w
R504-99			

Rail Service Bulletin

Supersedes S40-90

To: All Concerned

Subject: Permanently Mounted Track Trip Bases

Line/Route: Blue/O'Hare

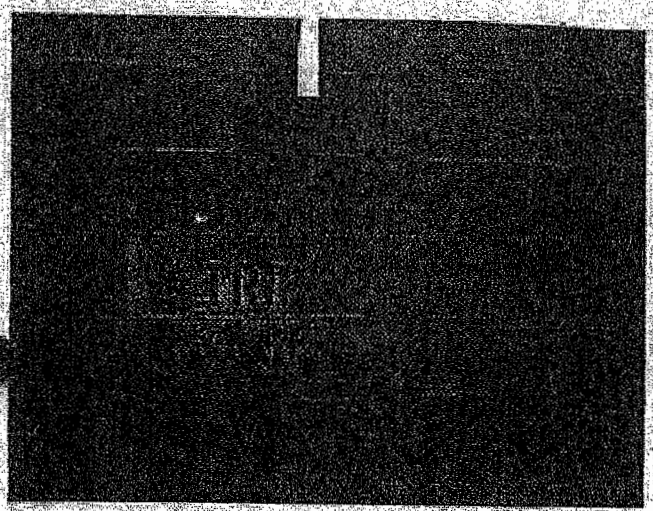
Location: O'Hare Subway

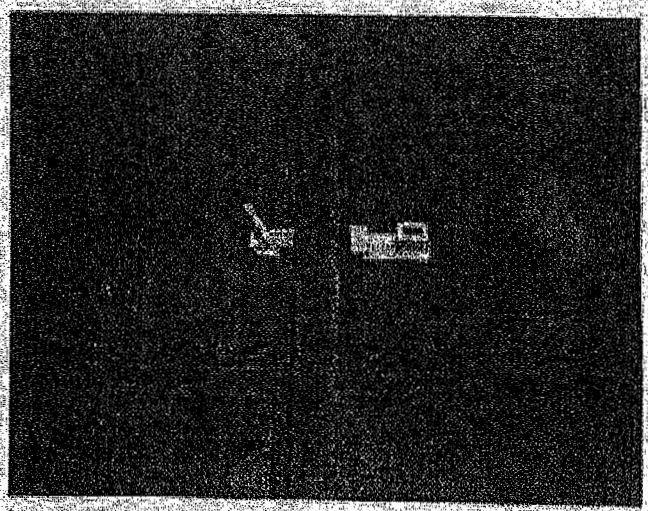
Effective: Wednesday, December 1, 1999

On April 9, 1990, track trip bases were permanently installed at approximately 100 foot intervals in the O'Hare Subway. These fixed track trip bases are located in areas where portable track trips used by flagging personnel cannot be installed on the running rail due to insufficient clearance between the subway floor and the bottom of the running rail. The location of these fixed track trip bases is identified by the words "TRIP BASE" stenciled on the subway wall, as shown below.

When flagmen are assigned to protect work crews in the O'Hare Subway, the standard portable track trip shall be issued and used where the base can be installed on the running rail. In those areas where the standard portable base cannot be installed on the running rail, flagmen shall use the standard track trip staff with the permanently installed track trip bases.

William R Moore
Vice President,
Rail Operations





Chicago Transit Authority
Transit Operations
Rail Operations

File	x	Special	x
Post	x	Other	w
R0160-06			

Rail Service Bulletin

Supersedes R505-99

To: All Concerned

Subject: Workers Ahead (WA) Warning System Locations

Location: Various

Route / Line: System Wide

Effective: **Thursday, March 02, 2006**

The following are the locations of the active Workers Ahead (WA) Warning System sites:

LINE	BRANCH	LIMITS	ATC SPEED REDUCTION
BLUE	O'HARE	PORTAL TO EAST B1 CROSSOVER	YES
BLUE	O'HARE	MANNHEIM CURVE	YES
BLUE	O'HARE	ROSEMONT YARD	YES
BLUE	O'HARE	TOLLWAY TUNNEL	YES
BLUE	O'HARE	CUMBERLAND	YES
BLUE	O'HARE	HARLEM	YES
BLUE	O'HARE	NAGLE AVENUE	YES
BLUE	O'HARE	MILWAUKEE AVENUE OVERPASS	YES
BLUE	DOUGLAS	CONNECTOR TRACK	YES
BLUE	DOUGLAS	HARRISON JUNCTION	YES
BLUE	DOUGLAS	18TH STREET CURVE	YES
BLUE	DOUGLAS	KILDARE	YES
BLUE	DOUGLAS	KOSTNER to 47th AVENUE	YES
BLUE	CONGRESS	LOTUS TUNNEL	NO
BROWN	RAVENSWOOD	ROSCOE CURVE	YES
PURPLE	EVANSTON	LINDEN TUNNEL	NO
PURPLE	EVANSTON	DAVIS STATION TO 300 FT. SOUTH OF DAVIS RELAY HOUSE	YES

LINE	BRANCH	LIMITS	ATC SPEED REDUCTION
PURPLE	EVANSTON	RELAY HOUSE SOUTH OF MAIN STATION TO 250 FT. NORTH OF LEE DIAMOND CROSSOVER	YES
RED	NORTH MAIN	SOUTH END OF MORSE STATION TO 500 FEET NORTH OF GRANVILLE STATION (ALL FOUR TRACKS)	YES
RED	STATE SUBWAY	NORTH / CLYBOURN CURVE	YES
RED	STATE SUBWAY	GOETHE CURVE [SOUTH of DIVISION / CLYBOURN CROSSOVER] - SB	YES
RED	STATE SUBWAY	GOETHE CURVE [SOUTH of DIVISION / CLYBOURN CROSSOVER] - NB	YES
RED	STATE SUBWAY	CHICAGO RIVER	YES
RED	STATE SUBWAY	MONROE	YES
RED	DAN RYAN SUBWAY	13th JUNCTION TO 15th INTERLOCKING - SB	YES
RED	DAN RYAN SUBWAY	15th INTERLOCKING TO 13th JUNCTION - NB	YES
RED	DAN RYAN SUBWAY	15th INTERLOCKING TO 18th STREET	YES
RED	DAN RYAN	26th STREET TO 31ST STREET TUNNEL	YES
RED	DAN RYAN	47TH STREET	YES
RED	DAN RYAN	63RD TO 67TH	YES
LOOP	ELEVATED	TOWER 12	YES
GREEN	LAKE	LOCKWOOD to LARAMIE	YES
GREEN	LAKE	CALIFORNIA to ARTESIAN	YES
GREEN	SOUTH MAIN	35TH IIT TUNNEL	YES
GREEN	SOUTH MAIN	39th / STATE CURVE	YES
GREEN	SOUTH MAIN	40th / INDIANA CURVE	YES
GREEN	SOUTH MAIN	59th JUNCTION	YES
GREEN	ENGLEWOOD	63rd / HARVARD CURVE	YES
GREEN	ENGLEWOOD	63rd / HALSTED CURVE	YES

The Workers Ahead Warning System is designed to enhance the safety of persons at track level. However, this does not relieve or reduce the responsibilities of employees to protect themselves and to comply with all pertinent rules and Standard Operating Procedures. Employees working in areas along the Rail System right-of-way where Workers Ahead Warning Systems are active must utilized the system.

The following rules apply:

Rail System Rule R4.10	- Workers Ahead warning system
Rail System Rule R8.25	- Use of care while on tracks
Rail System Rule R8.26	- Employees on tracks to signal motormen
Rail System Rule R8.27	- Passing persons on tracks
Standard Operating Procedure 8111	- Workers Ahead warning system

Contact a manager or instructor with any questions.

Vice President,
Rail Operations

JAH/WKR/wkr
R0160-06
08-14-06

Transit Operations
Rail Operations

File	x	Special	x
Post	x	Type	W
R107-05			

Rail Service Bulletin

To: All Concerned

Subject: **Flagman Assignments**

Line/Route: Systemwide

Effective: **Friday, February 4, 2005**

Employees working in the capacity of flagman are responsible for the following actions (in accordance with SOP 7037 and Rail System Rules R1.5, R8.24, R8.25 and R11.2):

Reporting for Duty

- Secure, examine and sign for flagging equipment prior to leaving the terminal.
- Obtain a Time Slip from the terminal clerk.
- Participate in the job briefing, if one is conducted.
- Proceed directly to the assigned work location via CTA service.
- Depart the terminal no more than 10 minutes after reporting (if there is no briefing), or 10 minutes after the briefing is concluded.

At the Work Location

- Notify the controller via two-way radio of work location and direction prior to entering the right-of-way.
- If a Slow Zone is used, ensure that it is set up properly prior to permitting workers on the right-of-way.
- If the Slow Zone is set up incorrectly, notify the work crew foreman and do not permit any workers on the right-of-way.
- Notify the controller via two-way radio if the work crew fails to arrive after 30 minutes of the scheduled start time.
- Ensure that all Slow Zone signs are removed or turned once work is concluded and workers have left the right-of-way (if conditions warrant).
- Notify the controller via two-way radio when all persons are clear of the right-of-way.

When Work Assignment is Complete

- Complete the Time Slip accurately and have the work crew foreman sign it.
- Indicate the actual time spent at the work location, **not** the flagging trick's scheduled start and finish times.
- Return immediately to the terminal via CTA service.
- Turn in flagging equipment and Time Slip to the terminal clerk.
- Failure to submit a properly completed Time Slip may affect the employee's pay.

Contact your Manager, Controller, Instructor or Supervisor with any questions.

Vice President,
Rail Operations

JAH/BCN/bcn
R107-05
02/02/05

Chicago Transit Authority
Transit Operations
Rail Operations

File	x	Special	x
Post	x	Type	w
R50-02			

Rail Service Bulletin

Supercedes S648-93

To: All Concerned

Subject: Employees On Right-Of-Way

Activity: Track Safety

Line/Route: Orange/Midway

Location: Midway Terminal to Federal Junction

Effective: **Sunday, January 27, 2002**

With the installation of a "WA" workers ahead warning system on the Midway portion of the Orange Line, the restriction prohibiting employees access to the right-of-way has been modified.

Between Midway and Lowe Interlocking

Between Midway Terminal and Lowe Interlocking employees will be allowed on the right-of-way, during non-rush periods providing they:

- notify Communication/Power Control prior to entering the right-of-way
- inform the Controller where they will be and for how long
- inform the Controller their method of arrival (walk, ride train, lifted by snorkel, etc.)
- use the "WA" system where available
- inform the Controller when clear of the right-of-way.

Announcements must be made whenever anyone is on the right-of-way.

When ordering flagmen follow the procedures outlined in the "Flagmen Requirements" manual including a work site inspection when determining the amount of flagmen required.

Between Lowe Interlocking and Federal Junction

In this area visibility is highly restricted due to curves and obstructions on the adjacent railroad right-of-way. No employee will be permitted on the right-of-way (regardless of reason) without authorization from Communication/Power Control. Before entering tracks employees must:

- have a two way radio with the capability of transmitting on channel 2 or channel 6
- inform the Controller where they will be and for how long
- inform the Controller their method of arrival (walk, ride train, lifted by snorkel, etc.)
- use the "WA" system extending throughout this area
- inform the Controller when clear of the right-of-way.

When granting personnel authorization, the Controller must alert every approaching train until the person(s) has cleared the right-of-way.

When passing a person on the right-of-way in this area, operators must inform the Rail Controller the exact location where the person(s) was passed.

When changing locations in this area, employees must repeat this procedure.

Controllers are reminded that in the aforementioned "WA" zone, the allowable train speed in both directions is reduced from 70/55 mph to 15 mph increasing the one way running time a minimum of three minutes.

All regular maintenance work in this area must be done:

- at night during the hours when there is no scheduled service
- at night with the tracks taken out of service
- under a single track operation
- under authorization of a Rail Service Bulletin.

Additional Requirements

In the work area, the Workers Ahead System must be fully operational before commencing work. No work will be allowed if the "WA" system is not operational. Communication/Power Control must be notified every thirty minutes, via radio channel 6, of the work crew's location until they have cleared the right-of-way.

For additional information regarding the Midway "WA" system track maintenance procedures, see Bulletins R19-02, R20-02 and R51-02.

Bulletins S648-93 and S695-93 are rescinded.

If you have any questions regarding the contents of this bulletin, you may contact your Instructor, your Manager or the Rail Operations Capital Project Oversight group.

William R. Moore
Vice President,
Rail Operations

WM/LS/ls
R050-02
1-29-02

APPENDIX B

Forms

- Rail Operations Order- Capital Projects
- Protection At Rail Work Locations
- Flagman Operation Check
- RTO/Flagman Operation Report
- Slow Zone Inspection
- Important CTA Telephone Numbers

Rail Operations Manpower Order

Capital Order Number: CP07-

Job Order #:

Req.		Filled
	Extra Flagman	
	Work Train	
	Supervisor	
	Operator	
	Towerman	
	Switchman	
	CA	

Detail:

Order Information

Work Begin:

Route:

Requested By:

Duration:

Terminal:

Requested Time: 09:21

Zone: **Location:**

Requested Date: Monday, July 30, 2007

Terminal Report Time:

Track #:

Phone: ( ) -

Ext.

Job Site Report Time:

Tracks Fouled:

Pager/Radio:

Job Site End Time:

Maint. Code: 3108 - Miscellaneous Outside Contractors

Contractor:

Purpose and Remarks

Submit Reset

Note: Please set print to landscape view! - - 'File -> Page Setup -> Orientation -> Landscape'

PROTECTION AT RAIL WORK LOCATION

Date _____ Weather _____

Route _____ Location _____ Direction _____

Track No. _____ Arrived at Scene _____ hours

☐ MOVING GANG (Working less than 30 min. at one location)
☐ STATIONARY GANG

Foreman ___ Approximate number of men in gang _____

Type of work being done _____

WARNING SIGN/LIGHT PLACEMENT

1. BEGIN SLOW ZONE sign and track trip approximately _____ feet from gang.

   Visible for approximately _____ feet.

2. Approach zone signs

   A. 15 MPH speed board approximately _____ feet from BEGIN SLOW ZONE sign.

      Visible for approximately _____ feet.

   B. SLOW ZONE 600 FT. AHEAD sign approximately _____ feet from BEGIN SLOW ZONE sign.

      Visible for approximately _____ feet.

   C. SLOW ZONE AHEAD sign approximately _____ feet from BEGIN SLOW ZONE sign.

      Visible for approximately _____ feet.

3. CLEAR SLOW ZONE sign approximately _____ feet beyond gang.

FLAGMAN

Name _____ Badge _____

Terminal _____

cta 3014 (rev. 11/84) Transportation Service (front)

EQUIPMENT	YES	NO
SAFETY VEST	☐	☐
PORTABLE TRACK TRIP	☐	☐
HORN	☐	☐
RED FLAG	☐	☐
RED LIGHT	☐	☐
WHITE LIGHT	☐	☐

WAS THE FLAGMAN FOLLOWING THE CORRECT FLAGGING PROCEDURE? YES ☐ NO ☐
(If "NO," enter incorrect procedure in "REMARKS").

REMARKS: _____

Service Supervisor _____ Badge _____

cta 3014 (rev. 11/84) Transportation Service (back)

FLAGMAN OPERATION CHECK

Flagman _____ **Badge** _____ **Date** _____

Terminal _____ **Day** _____

Location _____ **Start** _____M **Finish** _____M

		RULE NO.
☐	INATTENTIVE TO DUTY	72
☐	DELAYED GIVING STOP SIGNAL	
☐	DELAYED TRAIN UNNECESSARILY	
☐	GAVE IMPROPER FLAG SIGNAL	128
☐	TRACK TRIP NOT IN TRIPPING POSITION	235(g)
☐	PORTABLE TRACK TRIP POSITIONED AT INSUFFICIENT DISTANCE IN ADVANCE OF WORK LOCATION	235(d)
☐	FAILED TO REMAIN IN FULL VIEW OF APPROACHING TRAIN	235(e)
☐	FAILED TO USE WHISTLE TO WARN WORK GANG	235(f)
☐	GAVE PROCEED SIGNAL WHEN WORK MEN WERE NOT IN SAFE POSITION	
☐	GAVE PROCEED SIGNAL WHEN MATERIALS OR TOOLS WERE NOT IN CLEAR	235(h)
☐	FAILED TO HAVE FULL FLAGGING EQUIPMENT	235(b) 23(a)

☐ PORTABLE TRACK TRIP ☐ FLAGS ☐ WHISTLE

☐ LANTERNS ☐ SAFETY VEST ☐ PORTABLE RADIO

REMARKS: _____

_____

_____

_____

☐ OPERATED CORRECTLY

☐ COMMENDATION - See REMARKS for details

☐ FAILED AS INDICATED ABOVE

☐ Flagman instructed by me at time of observation

☐ VIOLATION - See REMARKS for details

Service Supervisor _____ **Badge** _____ **District** _____

ACTION TAKEN: _____

_____

_____

_____

Superintendent _____ **Date** _____

cta 3250 (rev 12/82) Transportation

TO/FLAGMAN OPERATION REPORT

agman
perator _____ Badge _____ Date _____

ation _____ Day _____

ocation of Incident _____

ne _____

art _____hours Finish _____hours

- Flagman inattentive to duty
- Flagman reported late
  Time
- Failed to use whistle or horn to warn work gang
- Gave proceed signal when workmen were not in safe position
- Gave proceed signal when material or tools were not in clear
- Failed to have full flagging equipment
- Operator inattentive to duty
  Time Train No.
- Operator running trip
  Time Train No. Trip #
- Operator exceeding safe speed thru work gang/slow zone
  Time Train No.
- Other: _____

emarks: (note: Also report exceptionally good performance)

_____

_____

_____

_____

_____

_____

_____

_____

ompleted by: _____ Date _____

elephone: _____

DISTRIBUTION:
White - Transportation Manager
Green - Immediate Supervisor
Canary - Route General Manager
Pink - Safety
Goldenrod - File

214.25 (rev. 08/97) Service Delivery Safety

SLOW ZONE INSPECTION

Location_____ Date_____ Time_____ Hours

Work Gang_____ Area_____

Y - Satisfactory N - Unsatisfactory — - Does Not Apply

SLOW ZONE

_____ Slow Zone Ahead

_____ Slow Zone 600 Feet Ahead

_____ 15 MPH

_____ Begin Slow Zone/6 MPH

_____ Clear Slow Zone

_____ Forward Protective Area

_____ Rear Protective Area

_____ Work Area

_____ Flashing Lights

_____ Visibility of Slow Zone

WORK GANG

_____ Personal Protective Equipment

_____ Tools and Material

FLAGMAN

_____ Portable Track Trip

_____ Red Flag

_____ Lanterns

_____ Air Horn / Whistle

_____ Personal Protective Equipment

_____ Position of Flagman

Comments and Recommendations

Flagman_____ Track #_____ Trip No._____

Flagman_____ Track #_____ Trip No._____

Flagman_____ Track #_____ Trip No._____

Supervisor/Foreman _____ Inspected by _____

IMPORTANT TELEPHONE NUMBERS

CTA Rail Controller	**312-432-8030**	**CTA Extension 28030**
CTA Power Controller	**312-432-8039**	**CTA Extension 28039**
CTA Emergency Power Off		**CTA Extension 22222**
CTA Rail Terminals		
Blue Line		
O'Hare	**773-686-0785**	**CTA Extension 41655-54**
54TH	**708-484-9222**	**CTA Extension 49222-333**
Forest Park	**708-366-5115**	**CTA Extensions 16689-90**
Brown Line		
Kimball	**773-539-3434**	**CTA Extension 30013-41**
Green Line		
Harlem	**708-366-0083**	**CTA Extensions 16918-17**
63rd/Ashland	**773-925-2863**	**CTA Extension 70519**
Orange Line		
Midway	**773-581-9789**	**CTA Extensions 16938-36**
Red, Purple, Yellow Lines		
Howard	**773-508-9165**	**CTA Extension 30014**
	773-508-9118	**CTA Extension 33216**
95TH	**773-264-2577**	**CTA Extensions 48065-64**
Rail Training & Instruction	**773-736-2471**	**CTA Extension 41414**
@ Jefferson Park	**773-736-1321**	**CTA Extension 41416**
Rail Operations @ Jefferson Park	**773-685-4162**	**CTA Extensions 41427-28**
Facilities Training @ IIT	**773-842-3153**	**CTA Extension 23153**
Ordering Flagmen		
Planning Analyst	**312-681-4534**	**CTA Extension 14534**
Safety		
Inspections & Investigations	**312-681-2747**	**CTA Extension 12747**
System Safety	**312-681-2748**	**CTA Extension 12748**
Environmental Affairs	**312-681-3868**	**CTA Extension 13868**

To contact a specific individual of the above mentioned departments by radio, contact the CTA Control Center.

1-888-YOUR-CTA

Dial this number from any public phone. After you hear recording, dial the CTA extension or dial *1 from any public phone on CTA property and enter extension.

APPENDIX C

Standard Operating Procedures

- Slow Zones (SOP # 7041)
- Flagging on the right-of-way (SOP # 7037)
- Train operation through slow zones (SOP # 7038)
- Safety on rapid transit tracks (SOP # 8130)
- Workers Ahead warning system (SOP # 8111)
- CTA Employees on the rail system right-of-way (General Safety Bulletin # 3026)

CTA take it.	Transit Operations Standard Operating Procedure	Publication Number: 7041 (08-04-01)	Page 1 of 4

Title: Slow Zones

Issued to: All Rail Operations, Engineering and Facilities Maintenance personnel; Capital Construction and outside agency personnel as necessary

Approved by:

Executive Vice-President, Transit Operations

Supersedes: Slow zones, 7041 (1-1-86)

A Slow Zone

- is a section of track marked with warning signs and lamps through which trains operate at reduced speed.
- provides protection for people, trains, equipment and tracks.
- is set up when a group (three or more people) is scheduled to work on, across, or near a section of track for one-half hour or more.
- is set up when conditions require, whether or not workmen are present. Examples are: track partially stripped, with spikes out, or needing realignment; guard rail out; or work being done under an elevated structure.

Responsibility for the Slow Zone

The department in charge of the scheduled work has jurisdiction over the slow zone. The same department remains responsible in the event the slow zone must be left unmanned (See *Note*, page 4).

The department with jurisdiction provides all marking devices and accessories.

- Sign/lamp units
- Signpost mounting devices
- Batteries for lamps

Before 1200 hours of the preceding day, the department must initiate an order for a flagman by notifying Operations Systems Support, CTA ext. 6817, which then immediately informs the appropriate terminal clerk.

The terminal clerk assigns flagmen for the next day's assignments if sufficient manpower is available and issues equipment (See SOP 7037: *Flagging on the Right-of-Way*).

SAFETY IS PART OF THE JOB

Follow all CTA-established rules relating to safe operation, as well as those rules relating to use of tools, materials, equipment and personal safety in performance of these procedures.

Set-Up of the Slow Zone

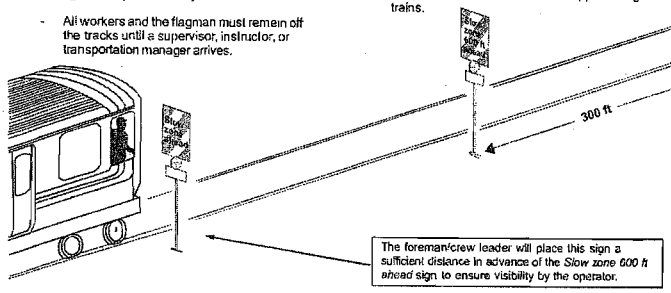
- The foreman/crew leader is responsible for setting up the slow zone as shown in the diagram and for calling the controller when preparing to set up the slow zone.
- If necessary, the foreman/crew leader will extend the distances shown to ensure visibility by train operators.
- The foreman/crew leader will send a worker against traffic a sufficient distance to serve as flagman while the slow zone is being set up.
- The foreman/crew leader and transportation manager will cooperate to keep the length of the work area to a safe minimum.
- The foreman/crew leader will relocate sign posts, flagman and the portable track trip each time the work area progresses 25 feet.
- An additional slow zone will be set up on an adjacent track if the foreman or transportation manager feels that it is necessary.
- The foreman/crew leader will ensure that all lamps are working properly.
- Upon arrival, the flagman will check the slow zone set-up for accuracy and safety.
- If the flagman and foreman/crew leader disagree as to whether the slow zone is set up properly, the flagman will notify the controller.
  - All workers and the flagman must leave the right-of-way immediately.
  - All workers and the flagman must remain off the tracks until a supervisor, instructor, or transportation manager arrives.
  - The supervisor, instructor or transportation manager will evaluate the situation and make any necessary corrections.
- If the *person in charge* at the slow zone deems the track to be unsafe, no trains may enter or pass through the slow zone until the hazard has been corrected.

Safety Requirements for *All* Non-Operating Personnel

- Wear CTA safety vest and hard hat. (Flagmen are not required to wear a hard hat.)
- Notify the controller whenever you are the first person on the track.
- Look both ways before stepping onto any track.
- Always step *over* rails - never on them.
- Avoid contact with the third rail.
- Do not touch any part of any train except for purposes of boarding or alighting.
- Watch for moving switch points.
- ***Always face approaching trains.***

If You Leave the Protection of a Slow Zone, *You* Are Responsible for Your Safety.

- Keep alert for and warn others of approaching trains.



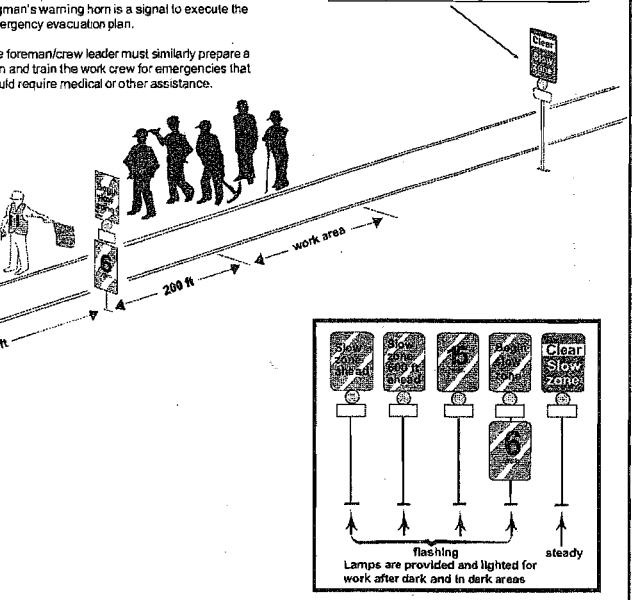
The foreman/crew leader will place this sign a sufficient distance in advance of the *Slow zone 600 ft ahead* sign to ensure visibility by the operator.

- When working alone, stop work well in advance of the train's arrival and remain in full view of approaching trains.
- Slow or stop trains as safely requires.
- Signal the operator to proceed only *after* the track is cleared.

Emergency Evacuation

- The foreman/crew leader must prepare an emergency evacuation plan identifying a clear area for each person. Practice an orderly track evacuation periodically so each person is fully aware of his/her part in the plan. Several short blasts of the flagman's warning horn is a signal to execute the emergency evacuation plan.
- The foreman/crew leader must similarly prepare a plan and train the work crew for emergencies that would require medical or other assistance.
- In the absence of the foreman, a work crew member shall be assigned responsibility for compliance with procedures.
- When work is being performed by a contractor, the contractor is responsible for ensuring that his foreman complies with all procedures.
- Emergencies and violations must be reported by the foreman or CTA construction inspector as soon as possible to the department involved and to the controller.

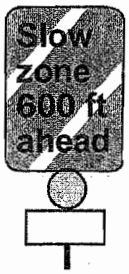
The foreman/crew leader will place this sign beyond the end of the work area at a distance equal to the maximum train length in operation.



Lamps are provided and lighted for work after dark and in dark areas

Standard Operation

1. Once the slow zone has been set up properly, the foreman/crew leader instructs the workers and flagman to begin work.
2. When a train reaches the *Slow zone 600 ft ahead* sign, the flagman sounds the air horn to warn the work crew of the approaching train. Using the red flag or lamp held horizontally over the affected track, the flagman signals the train to reduce speed.
3. As quickly as possible, workers complete tasks sufficiently to assure safe passage of the train.
4. Workers remove tools and materials that could interfere with train operation, move to positions of safety, and ***face the approaching train***.
5. The operator stops the train at any point where signalled to do so. If the operator has not received a proceed signal from the flagman, the train must be stopped *no less than* 1 car length in advance of the *Begin slow zone* sign.
6. The foreman/crew leader signals the flagman when the work area is clear.
7. The flagman then removes the track trip staff, shows it to the operator, and signals the operator to proceed.
8. The operator proceeds at the designated speed until the motorcab passes the *Clear Slow zone* sign. Once the cab has passed the sign, the train may resume normal speed.
9. The flagman replaces the track trip staff as soon as the train clears his/her position.
10. Workers resume work after the train has cleared and it is safe to do so.



Removal of the Slow Zone

1. The foreman/crew leader makes certain that all tools and materials have been removed or secured properly.
2. With the flagman's protection, workers leave the site in single file. As necessary, the foreman/crew leader designates a second flagman to provide protection from both directions.
3. The flagman removes the portable track trip when directed to do so by the foreman/ crew leader.
4. With flagman protection, signposts and mounting devices are removed beginning with the *Clear Slow zone* sign and moving forward, in order, removing the *Slow zone ahead* sign last.
5. The flagman notifies the controller when the area is clear.

Note: *If a slow zone is to remain after workers leave, the flagman must notify the controller, leave in place the signposts and stands and place an appropriate speed board on the "Begin slow zone" sign.*

cta	Transit Operations Standard Operating Procedure	Publication Number: 7037 (12-04-00)	Page 1 of 4

Title: **Flagging on the Right-of-Way**

Issued to: Flagman, Rail Service Supervisor (Operations),
Track Gang Foreman (Maintenance)

Approved by: Executive Vice-President, Transit Operations

Supersedes: Flagging on the right-of-way, 7037 (02-16-92)

Any group of 3 or more people who will be on or near the right-of-way for more than one-half hour must operate under protection of a flagman within an established slow zone. The department requesting a flagman is responsible for providing all sign/lamp assemblies and signpost mounting devices necessary for setting up the slow zone.

Reporting For Duty at Terminal (Operations Personnel)

- Report to the clerk and manager.
- Select, examine and test all necessary flagging equipment:
  - blaze-orange safety vest
  - red flag (for use in daylight)
  - air horn with extra cannister
  - portable radio (previously issued)
  - portable track trip
  - clear signal lantern, battery-operated, for use in times or areas of limited visibility
  - flashlight (previously issued; as back-up to signal lantern)
  - whistle (previously issued; as back-up if air horn malfunctions)
  - Dietz light (battery-operated flashing yellow light; for times or areas of limited visibility)
- When all equipment has been checked and operates properly, complete form *cta 3784 EQUIPMENT REPORT - FLAGMAN'S*, and leave the form with the clerk.
- Check the trainroom bulletin board for operating orders and/or bulletins regarding special train routings or other events scheduled at or affecting the flagging location. See the transportation manager for clarification.
- Obtain a time slip (form *cta 3533 TIME SLIP*) from the clerk.
- Perform a radio check (*10-40*).
- Proceed immediately via CTA service to the assigned work location.

At the Work Location

Upon arrival at the work site, report to the work crew leader for instructions. The work crew leader is responsible for setting up the slow zone correctly, and has jurisdiction over the flagman.

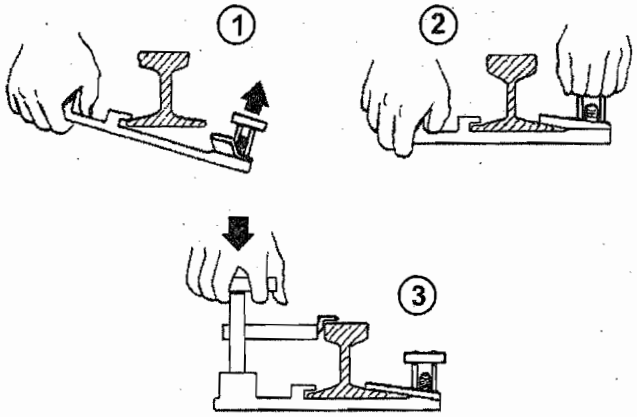
- Call the controller to confirm arrival and to provide details regarding the exact location of the work crew, the number of people in the crew, any other work that is or will be performed near the work site, and the expected length of time the work crew will need a flagman.
- Check that the slow zone meets all the requirements of all applicable standard operating procedures.

> ***Note:*** *If the slow zone has been set up improperly and the flagman and work crew leader cannot agree to correct it, the flagman will call the controller to request supervisory assistance. Once the controller has been notified:*
> - *The workers and flagman must leave the right-of-way IMMEDIATELY.*
> - *The workers and flagman must remain off of the tracks until a supervisor, instructor, or transportation manager arrives.*
> - *The supervisor, instructor or transportation manager will evaluate the situation and make any necessary adjustments.*

Installing the Portable Track Trip

With the crew leader's assistance, select the location for installing the portable track trip.

- The location must provide secure footing.
- It must be directly across the track from the *Begin slow zone/6 mph* sign and both must be within 25 feet of the prescribed distance from the work area.
- At curves, hills, subway entrances, etc., provide rail operators with a view of the flagman's position that is as long and clear as allowable. Some circumstances will require two persons to *team flag* to provide ample warning.



(1) Slide the portable track trip base under the running rail opposite the motor cab (when facing in the direction of travel). Move ballast as necessary to insert the base under the rail. The socket for the staff must be on the outside of the running rail.

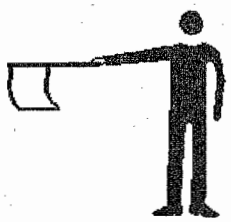
(2) Mount the base onto the running rail by engaging the lip onto the outer base of the running rail. Secure the base by positioning the tightening plate (under the tightening handle) on top of the inner base of the running rail. Tighten the handle securely.

(3) Drop the staff into the socket with the tip of the trip resting on the running rail.

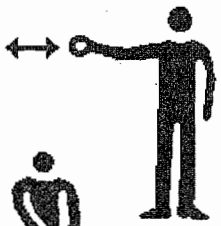
- When properly installed, the portable track trip will bring the train to a stop. Also, if a train passes a trip, the wheels will permanently flatten the tip of the trip, providing proof of the train's having run the trip.

Flagging (Operations and Maintenance Personnel)

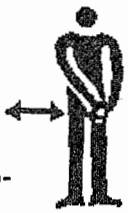
- Stand at track level next to the portable track trip, whenever clearance permits, even when flagging for workers on a platform or a work train.
- Stand in full view and face approaching trains.
- As a train approaches the *Slow zone 600 ft ahead* sign:
  - Sound one long blast on the air horn or whistle to warn workers.
  - At the same time, raise the red flag at arm's length in a *horizontal position* across the track being governed to signal the train to reduce speed.



  - To signal after dark or in the subway, use the flashlight or battery-powered signal lantern. *Slowly* move the light back and forth horizontally across the track while aiming it at the approaching train. *Movement is necessary to ensure recognition.*



  - To signal the train to stop, swing the flag or flashlight horizontally at a right angle to the track.



  - To signal the train to make an emergency stop, violently swing the flag or flashlight across the track.

> ***Note:*** *In an emergency, if a red flag or flashlight is not available, signals may be given with the arm only.*

- When the train stops:
  - Wait for the work crew foreman to signal that workers, tools, and equipment are in the clear and that the train may proceed.
  - Remove the track trip staff, face the train and show the trip staff to the operator of the train. During daylight, remove the red flag from the operator's view, then signal to proceed by hand signal.

  - After dark or in the subway, after showing the trip staff to the operator, signal to proceed by raising and lowering the flashlight or battery lantern vertically.
  - If a speed other than the standard restricted speed (6 mph) is desired, indicate this to the operator by voice or hand signal before giving the proceed signal.

- If two flagmen are assigned to the same location (one for each direction of train travel) and two trains arrive simultaneously, the loop-bound train receives priority.
  - The flagman guarding the loop-bound track must signal the other flagman to detain his/her train by momentarily holding the red flag, lantern or outstretched arm (during daylight) over the track of the train to be detained (outbound).
  - Allow the loop-bound train to proceed only after you have received a signal from the other flagman acknowledging that your signal was received.
- If it appears that an approaching train is not going to stop:
  - Leave the portable track trip in the tripping position.
  - Use short blasts of the air horn or blow the whistle to warn the workers.
  - Stand clear of the train.
  - Move the red flag or flashlight (at night or in the subway) *violently* across the track to attract the operator's attention. Continue blowing the air horn or whistle as warning.

Note: Never signal to proceed using the red flag or any red object.

- If the train does not stop or stops after hitting the portable track trip:
  - Note the run and head car numbers of the train and immediately call the controller.
  - Report the incident, request any necessary assistance, and order a replacement portable track trip.
- Immediately report any violation of speed restrictions or failure to obey signals to the controller. Provide the exact time, location, direction, run number and head car number.
- If members of a work crew fail to face passing trains or otherwise jeopardize their safety or the safety of others, or if they unnecessarily delay trains, notify the work crew leader. If violations continue, call the controller.

When Work Assignment is Completed (Operations personnel)

- When the work crew leader indicates that the work for the day is done, complete the time slip and have the work crew leader sign it.
- If a slow zone is to remain in place, notify the controller.
- Notify the controller when the right-of-way is clear.
- Return to the terminal and report to the clerk. Indicate on the time slip the actual time spent at the work location. Do not use the flagging trick's scheduled start and finish times.
- Report any defective equipment or unusual incidents.
- Turn in flagging equipment and time slip to the clerk.

SAFETY IS PART OF THE JOB
Follow all CTA-established rules relating to safe operation, as well as those rules relating to use of tools, materials, equipment and personal safety in performance of these procedures.

Transit Operations Standard Operating Procedure	Publication Number: 7038 (05-06-01)	Page 1 of 2

Title:	**Train Operation Through Slow Zones**
Issued to:	Rapid Transit Operator, Rail Supervisor
Approved by:	Executive Vice-President, Transit Operations
Supersedes:	Train operation through slow zones, SOP 500 (02-25-82)

A slow zone

- is a section of track marked with warning signs and lamps through which trains operate at reduced speed.
- is used to protect people working or to limit speed because of some condition on or near the track.

To approach or pass through a slow zone, operate as follows:

This sign is set up a sufficient distance in advance of the "Slow zone 600 ft ahead" sign to ensure visibility by the operator.

1. Begin reducing speed to 15 mph.

Sound horn (succession of short sounds).

2. Begin 15 mph speed limit.

Stand in the motorcab.

Be prepared to stop one car length before reaching the "Begin slow zone" sign.

3. Stop if signaled to do so by the flagman.

Open the window to listen for instructions.

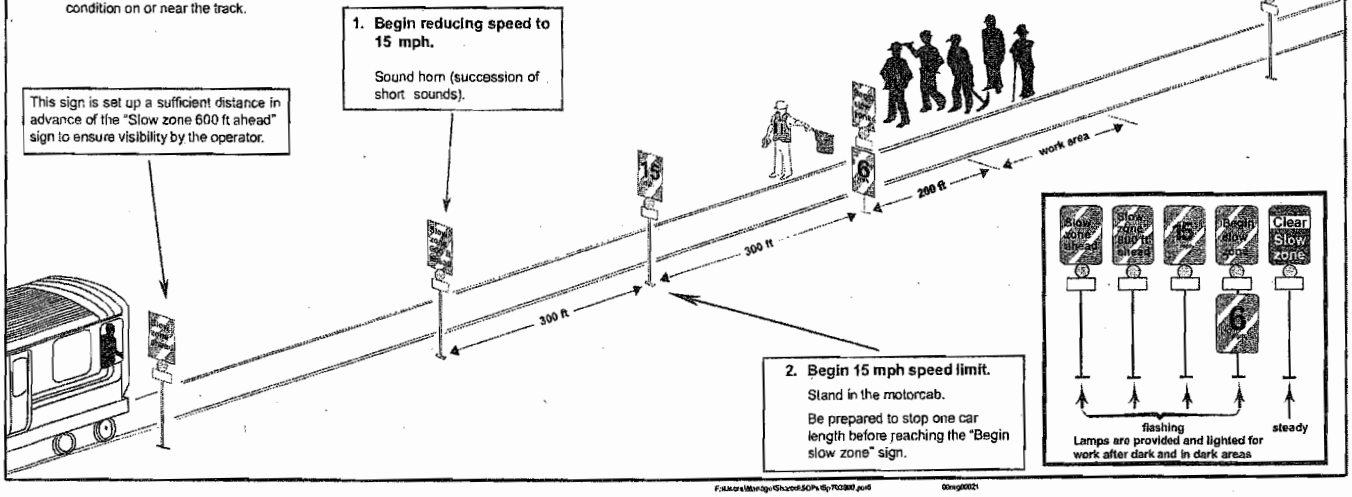
When the flagman shows that the track trip has been removed and gives a "proceed" signal:

- Acknowledge by train horn (two short sounds).
- Observe the track ahead for obstructions and that all personnel are clear.
- Proceed at or below posted speed until the entire train is clear.

In the absence of a signal to proceed from the flagman:

- Stop and open the window.
- Use the train horn to alert the flagman for a signal (four short sounds).

4. Resume allowable speed once the head car of the train has reached this sign.



cta take it.	**Transit Operations** Standard Operating Procedure	**Publication Number: 8130 (04-27-03)**	**Page 1 of 5**

Title: **Safety on Rapid Transit Tracks**

Issued to: CTA and outside agency personnel, as necessary

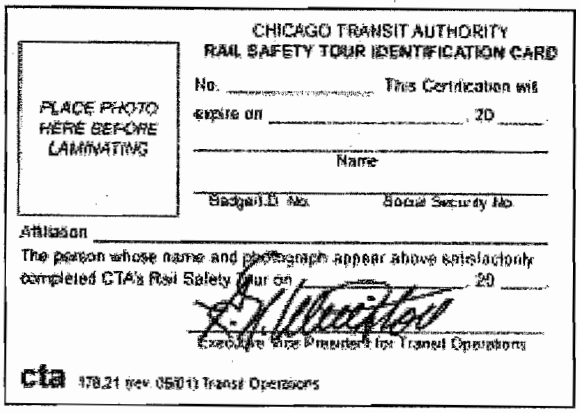
Approved by: Executive Vice President, Transit Operations

Supersedes: Safety on rapid transit tracks, 8130 (02-17-02)

Introduction

When entering upon or working adjacent to the right-of-way, ***with or without*** flagging protection, all personnel must follow established safety procedures as specified in General Safety Bulletin #3026, *CTA Employees on the Rail System Right-of-Way* (August 2002), and current Rail System Rule Book rules. The following guidelines will help you protect yourself and others whenever it is necessary for you to enter the rail system right-of-way.

***NOTE*: All CTA non-operating employees and employees of outside agencies who are assigned to work on or adjacent to CTA's rail system right-of-way must have successfully completed the Rail System Safety Tour and must carry a valid Rail Safety Tour Identification Card.**


CHICAGO TRANSIT AUTHORITY
RAIL SAFETY TOUR IDENTIFICATION CARD

PLACE PHOTO HERE BEFORE LAMINATING

No. _____ This Certification will expire on _____, 20____

Name

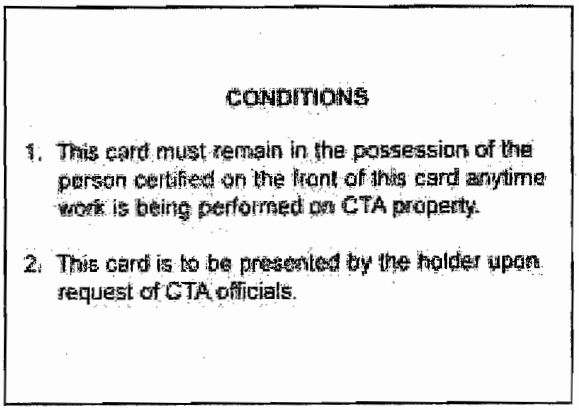
Badge/I.D. No. Social Security No

Affiliation _____

The person whose name and photograph appear above satisfactorily completed CTA's Rail Safety Tour on _____, 20____

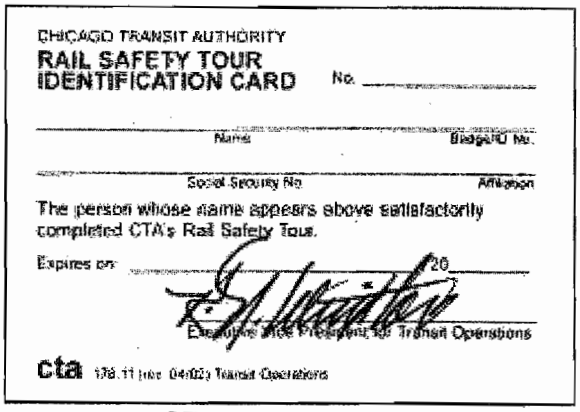
Executive Vice President for Transit Operations

cta 178.21 rev 05/01 Transit Operations


CONDITIONS

1. This card must remain in the possession of the person certified on the front of this card anytime work is being performed on CTA property.
2. This card is to be presented by the holder upon request of CTA officials.

Outside contractor/agency employee Rail Safety Tour Identification Card
(valid for one year from date of issue)


CHICAGO TRANSIT AUTHORITY
RAIL SAFETY TOUR IDENTIFICATION CARD No. _____

Name Badge/ID No.

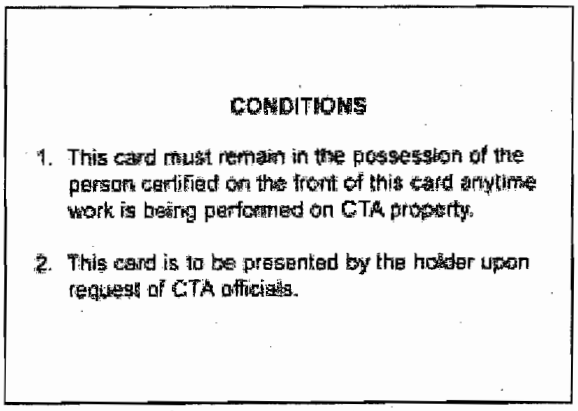
Social Security No Affiliation

The person whose name appears above satisfactorily completed CTA's Rail Safety Tour.

Expires on: _____, 20____

Executive Vice President for Transit Operations

cta 178.11 rev 04/02 Transit Operations


CONDITIONS

1. This card must remain in the possession of the person certified on the front of this card anytime work is being performed on CTA property.
2. This card is to be presented by the holder upon request of CTA officials.

CTA non-operating employee Rail Safety Tour Identification Card
(valid for three years from date of issue)

Training and Instruction

Communication

- Before entering or working adjacent to the right-of-way, a group shall have a pre-entry safety discussion covering evacuation procedures and safety precautions.

- When this is completed, you must notify the controller via radio of your desire to enter the right-of-way. Provide the following information:

  - Who you are and the number of people in your group. If you are a CTA employee, you must also provide your radio call number and your classification.

  - Where you will be working, including the direction of train traffic.

  - How long you will be working at that location.

Employees equipped with radios must notify the controller on the proper route channel. Employees with radios not equipped with a route channel must notify Communication/Power Control via channel 2.

When traveling by train, if you do not have a radio, you must identify yourself and display your employee ID card to the operator and request the use of the operator's radio to notify the controller. Avoid unnecessary distraction of the operator during train operation.

When arriving at a work site by another method of transportation, employees must flag the first train to a stop and request the use of the operator's radio to notify the controller. Operators must not operate past anyone at track level until receiving a proper proceed signal and verifying that all personnel and equipment are in the clear.

Upon the completion of your assignment, notify the controller when you leave the work area.

Personal Protective Equipment

Whenever working on or adjacent to the rail system right-of-way,

- All personnel must wear:
  - Approved CTA high-visibility fluorescent green safety vests,
  - Proper footwear,
  - Protective headwear, if required.

- All personnel must carry a flashlight.

- All groups, even if the group consists of just one person, must possess a working portable flashing yellow light when working in times or places of reduced visibility.

General Precautions

- Be alert; be conscious of hazards presented by third rail and trains.

- Consider 600 volt third rail to be energized at all times.

- Never hesitate to signal an operator to slow down or stop if safety is involved; but do not delay service unnecessarily.

- Exercise caution while on the tracks:

  - Stop and look in both directions before crossing a track. Remain in the clear if a train is approaching. Expect trains to run in either direction, on any track, at any time.

  - Avoid walking on or crossing tracks unless necessary. Use footwalks whenever possible.

  - Step ***over*** rails, never on them.

  - Watch for moving switchpoints. Never stand or place any part of your body on or in movable portions of switches, switchpoints or linkage.

  - Do not allow any part of your body, article of clothing, tools or equipment to contact the third rail or any part of a train.

  - Walk against the normal flow of train traffic whenever possible, so you can observe approaching trains.

Actions When Trains Approach

1. Stop work.

2. Warn others who may not be aware of the approaching train.

3. Face the train and signal the operator to proceed, slow down or stop. Give signals well in advance. If in a group, designate one employee to give all signals.

4. Make certain all equipment is in the clear.

5. Go to a position where you are clear of approaching trains. Make certain you can be seen by the operator of any approaching train.

   - Do not step to an adjacent track unless you are sure it is clear and will remain clear until the train passes.

   - Do not stand between trains on curves or in areas of restricted clearance. If caught/ trapped between trains, lie down on the footwalk, *making sure you don't contact the third rail.*

6. When you are certain that you and all equipment are in the clear, stand and *face the train*, then signal the operator to proceed. In areas of restricted clearance, do not allow two trains to pass on each side of you at the same time. Flag both trains to a stop. Then give a proceed signal to one train at a time. When two trains are traveling in opposite directions, the loopbound train should be given priority whenever possible.

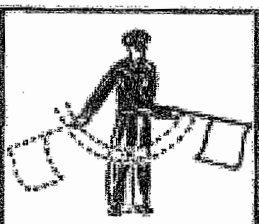
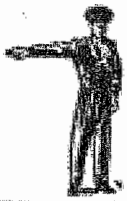
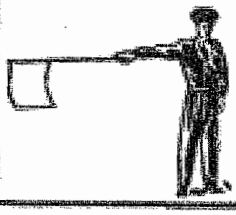
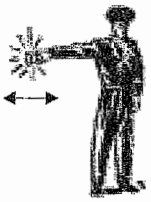
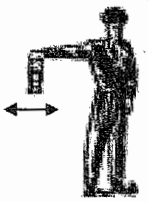
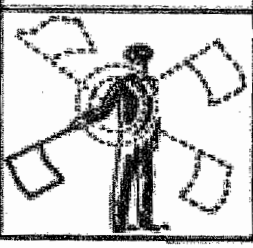
7. Remain stationary and watch the train until the entire train has passed.

8. Notify the controller and your immediate supervisor if the operator fails to respond to signals.

Hand, Flag, Flashlight and Lantern Signals

If your duties require you to give signals, you must ensure that you have the proper equipment, in good working order, ready for immediate use. Flags or lights of the prescribed colors must be used whenever normal operation cannot be maintained in a track area.

- Flags or hand signals must be used during daylight.
- Lights must be used during darkness, periods of low visibility, or in subways.
  - When signalling with a light to reduce speed, slowly move the light back and forth horizontally at shoulder height to ensure that the operator sees and recognizes the signal.
- ***The proceed signal shall NEVER be given with a red flag or any red object.***

		**STOP or REMAIN STANDING-Swung horizontally at right angle to track**		
		**REDUCE SPEED-Held horizontally at arm's length above track being governed**		
	NOTE: Proceed signal shall NEVER be given with a red flag OR ANY RED OBJECT.	**PROCEED-Raised and lowered vertically above track being governed**	*Proceed signal shall be given with GREEN or WHITE light.*	
		**BACK-Swung vertically in a circle at half-arm's length at right angle to track**		

Note: **The relative speed with which a signal is given indicates the relative speed at which compliance with the signal is desired. Any object or hand waved violently by anyone on or near a track is a signal to stop immediately.**

Operator Approaching People On or Near Tracks

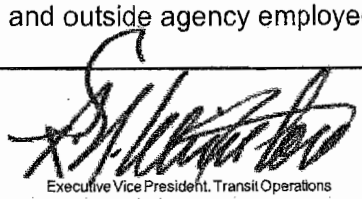
- Never operate past anyone on a footwalk or at track level without first receiving a proceed signal and making sure that everyone and all equipment are in the clear. Stand in the motorcab, open the motorcab window and proceed at restricted speed until the entire train is clear of everyone on or near the tracks.
- Warn persons on the tracks by short horn blasts.
- Acknowledge all signals with two short horn blasts.
- Obey all signals, lights and signs.
- Notify the controller to report failure of persons at track level or on footwalks to signal correctly.

SAFETY IS PART OF THE JOB
Follow all CTA-established rules relating to safe operation, as well as those rules relating to use of tools, materials, equipment and personal safety in performance of these procedures.

cta take it	Transit Operations Standard Operating Procedure	Publication Number: 8111 (04-28-02)	Page 1 of 4

Title: **Workers Ahead Warning System**

Issued to: Rail Operations Personnel and outside agency employees, as necessary

Approved by: 
Executive Vice President, Transit Operations

Supersedes: Workers Ahead warning system, 8111 (02-02-92)

Introduction

The Workers Ahead (*WA*) warning system is designed to enhance the safety of persons working at track level in areas of limited visibility. The Authority has installed WA warning systems at several locations, but these installations do not relieve or reduce the responsibility of employees to protect themselves and to comply with pertinent safety rules and standard operating procedures. Whenever personnel are present on the right-of-way within a Workers Ahead warning zone, the wayside system must be activated. The Workers Ahead warning system must be used *in addition to* any slow zones which overlap or are located entirely within the Workers Ahead warning zone.

When the system is activated by an employee at track level, operators of approaching trains will encounter a flashing yellow wayside warning light beneath a sign labeled "BEGIN WA ZONE." In cab signal territory *only*, when the system is activated, the cab signal indication of maximum allowable speed will be reduced below the normal allowable speed. Generally, in areas where cab signal allowable speed is normally set at (green) 55 mph, allowable speed will be reduced to (yellow) 35 mph or less. However, at some locations on the Orange Line, the reduction will be 15 mph.

Note: The speed-reducing feature is not in effect when allowable speed has already been reduced due to right-of-way conditions or a train ahead.

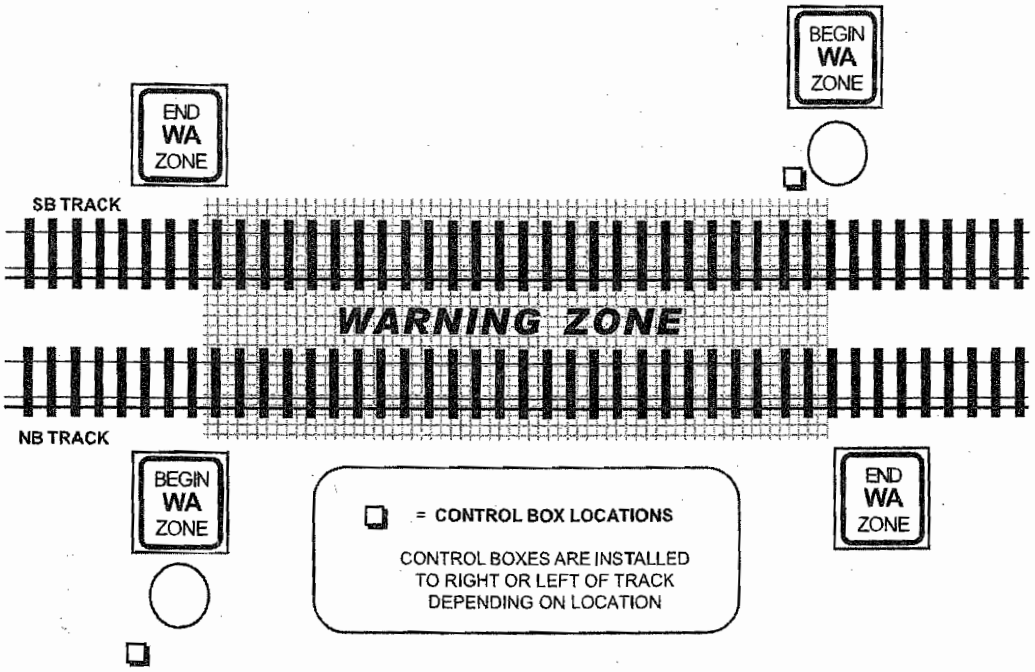
When the system is turned off, WA warning lights will be dark, normal speed limits will be in effect and operators may proceed at permitted speed. Rule R6.2 does not apply to these warning lights.

Operators approaching a flashing yellow WA warning light must reduce the speed of their trains and operate on sight, with extreme caution, expecting to encounter workers ahead through the limits of the WA warning zone. Operators shall not operate past persons at track level until they receive a proper proceed signal and see that all persons and equipment are in the clear.

The end of the warning zone is identified by a yellow sign with wording "END WA ZONE" in black lettering.

Publication Number: 8111 (04-28-02)	Page 2 of 4
Title: *Workers Ahead Warning System*	

Workers Ahead warning system controls can activate the warning system on one or more tracks to reduce the speed of train traffic **operating in normal direction only.**

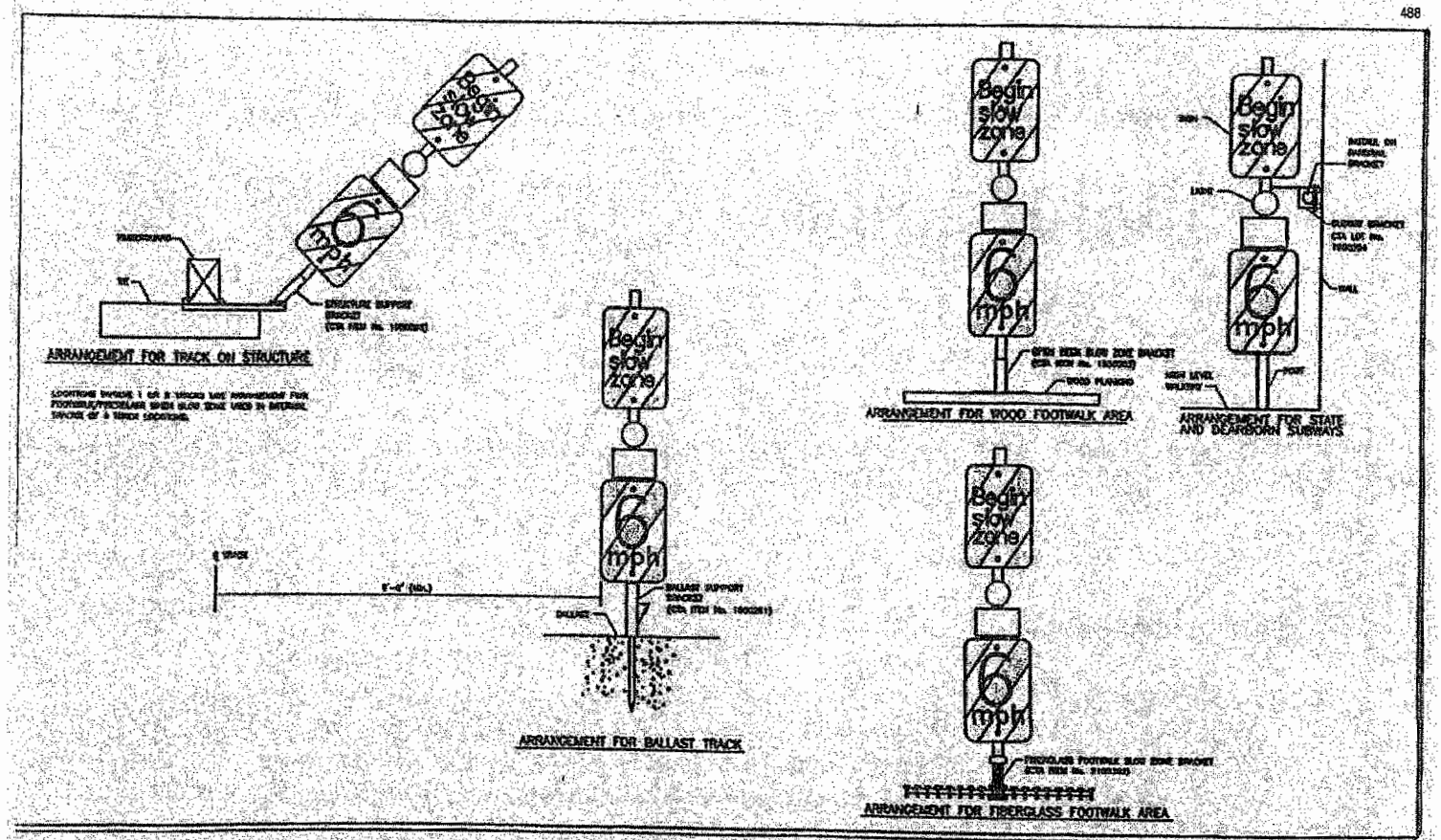


Activating the System

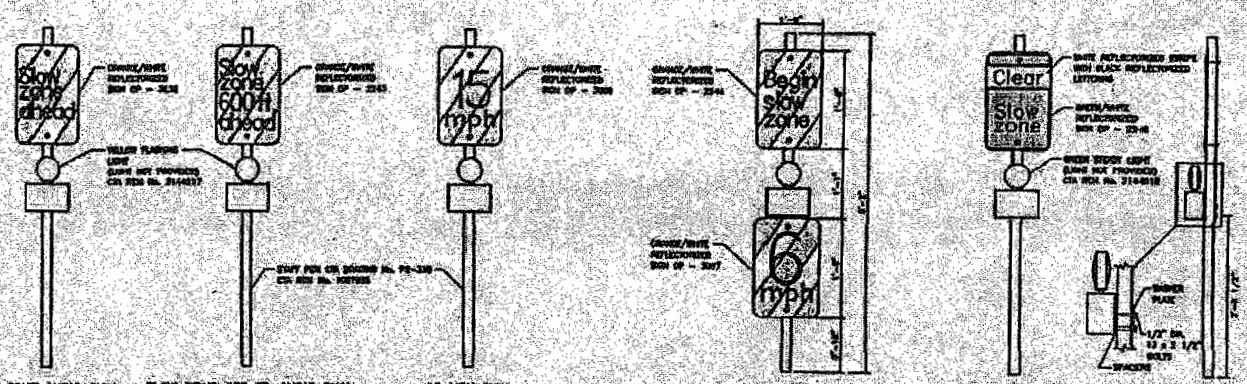
- Before entering the Workers Ahead warning zone at track level, check the Workers Ahead warning light to see if the system is turned on. If the system is already turned on, **leave it turned on**; it indicates that other workers are already in the WA zone. **Notify other workers present that you are also working in the WA zone.** If the system is turned off, unlock the control box and flip the toggle switch to the opposite position. Check to make sure that the red indicator light illuminates to indicate that the WA system is activated. Then close and lock the control box, if it is so equipped.

- Always verify that the WA warning lights are operating properly before beginning any work in the area. If it is not practical to visually check the warning light at the opposite end of the warning zone, flag down the first train that enters the warning zone. **Verify with the operator that the Workers Ahead warning light at the entrance to the warning zone is working properly.**

Note: If any warning light fails to illuminate and flash when the system is turned on, notify the rail controller of the defective warning light and await instructions. If necessary, flag a train to a stop and request that the operator report the defect to the controller.



n Charge S. Martin Designed By Drawn By P. Sheridan Checked By F. Tilen Approved By D. Penepacker	Revision	Date	Approved	Description	CHICAGO TRANSIT AUTHORITY cta	PORTABLE RAIL SYSTEM SLOW ZONE BRACKETS ARRANGEMENT OF POST SUPPORTS SCALE: 3/4" = 1'-0" DATE: 2/25/99 J.G. MA.	SHEET NO. 1 OF 1 DRG No. P4-337C



SLOW ZONE AHEAD SIGN
ASSEMBLY ITEM No. 1957020

Sign Assembly: Slow Zone Ahead, CTA Item #1957020, fiberglass orange/white reflectorized sign with wording "Slow Zone Ahead" per CTA OP# 3232 (CTA detail specification #5002 – latest revision) attached to wood post (per CTA Drawing P2-338).

SLOW ZONE 600 FT. AHEAD SIGN
ASSEMBLY ITEM No. 1957021

Sign Assembly: Slow Zone 600 FT. Ahead, CTA Item #1957021, fiberglass orange/white reflectorized sign with wording "Slow Zone 600 FT. Ahead" per CTA OP# 2243 (CTA detail specification #5002 – latest revision) attached to wood post (per CTA Drawing P2-338).

15 MPH SIGN
ASSEMBLY ITEM No. 1957022

Sign Assembly: 15 MPH CTA Item #1957022, fiberglass orange/white reflectorized sign with wording "15 MPH" per CTA OP# 3869 (CTA detail specification #5002 – latest revision) attached to wood post (per CTA Drawing P2-338).

BEGIN SLOW ZONE/6 MPH SIGN
ASSEMBLY ITEM No. 1957023

Sign Assembly: Begin Slow Zone/6 MPH, CTA Item #1957023, fiberglass orange/white reflectorized sign with wording "Begin Slow Zone/6 MPH" per CTA OP# 2244 & 3867 (CTA detail specification #5002 – latest revision) attached to wood post (per CTA Drawing P2-338).

CLEAR SLOW ZONE SIGN
ASSEMBLY ITEM No. 1957024

Sign Assembly: Clear Slow Zone, CTA Item #1957024, fiberglass orange/white reflectorized sign with wording "Clear Slow Zone" per CTA OP# 2248 (CTA detail specification #5002 – latest revision) attached to wood post (per CTA Drawing P2-338).

SIDE VIEW (TYP.)

In Charge	S. Martin				
Designed By					
Drawn By	P. Sheridan				
Checked By	[illegible]				
Approved By	D. Penepacker	Revision	Date	Approved	Description

CHICAGO TRANSIT AUTHORITY

cta

PORTABLE RAIL SYSTEM SLOW ZONE ASSEMBLY SIGNPOSTS

SCALE 3/4" = 1'-0" DATE 6/3/96 JOB No.

SHEET NO. 1 OF 1

ORIG. No. R1-3379

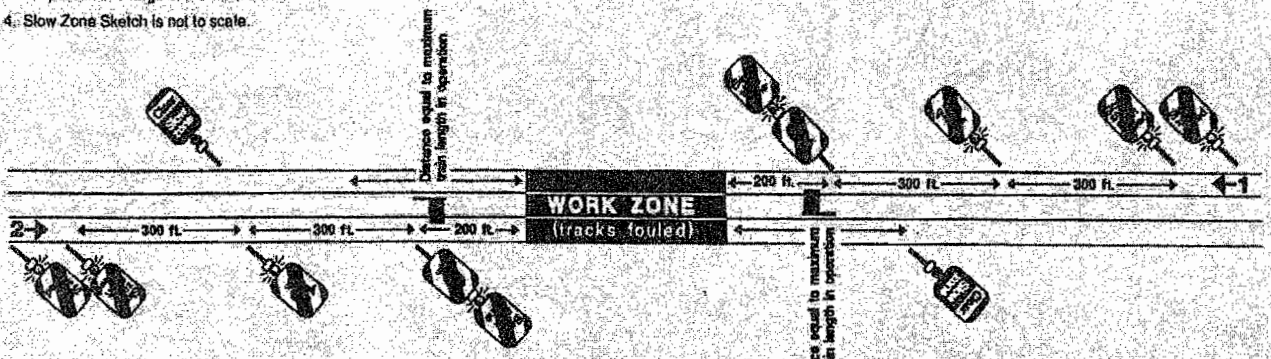
SLOW ZONE

2 TRACK AREA-WORKMEN & FLAGMEN PRESENT

WORK AREA IS ON ONE TRACK. BOTH TRACKS ARE FOULED.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Slow Zone Sketch is not to scale.



LEGEND

- Direction of train traffic
- Flagman with portable track trip positioned across from Begin Slow Zone Sign
- Flashing Amber Light
- Steady Green Light

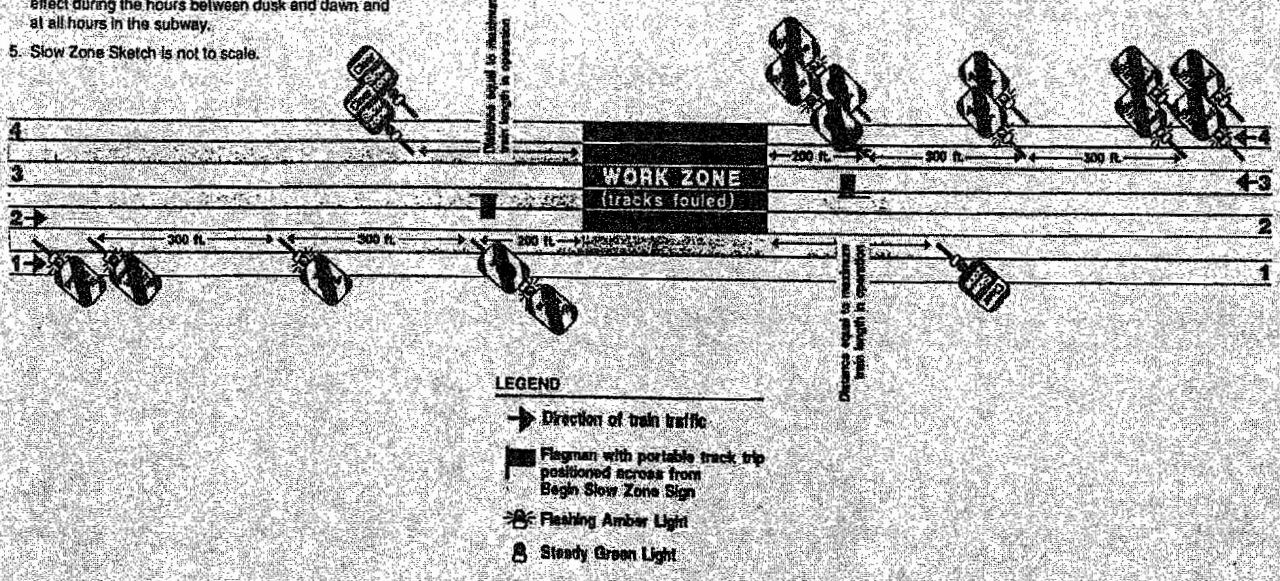
SLOW ZONE

4 TRACK AREA-WORKMEN & FLAGMEN PRESENT

WORK AREA IS ON TRACK #3.
TRACK #2 & #4 ARE ALSO FOULED.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.



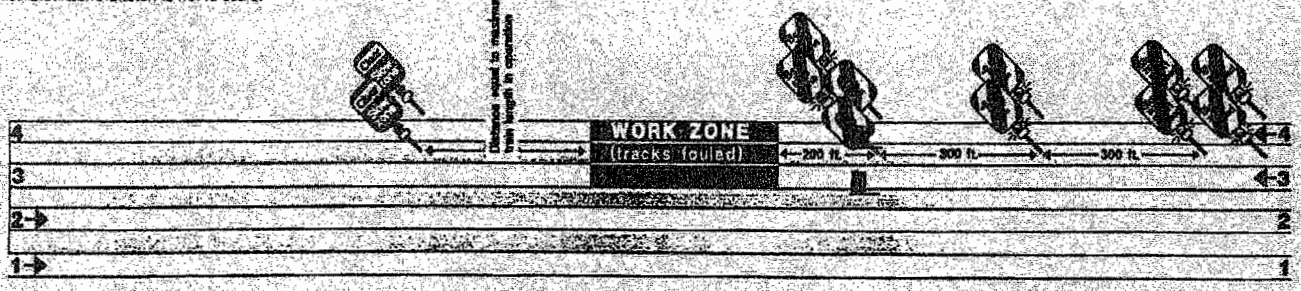
SLOW ZONE

4 TRACK AREA-WORKMEN & FLAGMEN PRESENT

WORK AREA IS ON TRACK #4.
TRACK #3 IS ALSO FOULED.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.



LEGEND

- Direction of train traffic
- Flagman with portable track trip positioned across from Begin Slow Zone Sign
- Flashing Amber Light
- Steady Green Light

Safety/Graphics-LN/JFS 08/96

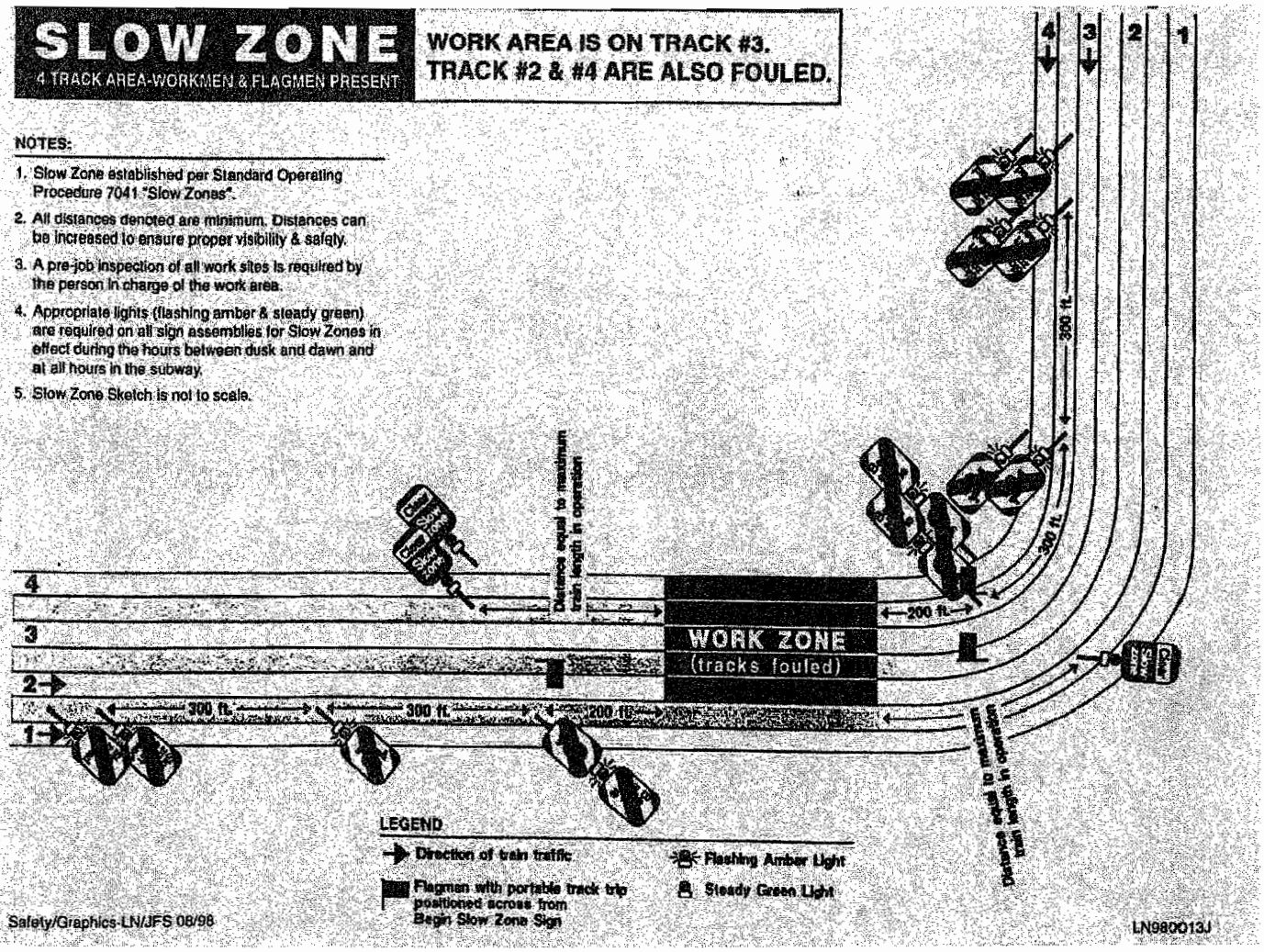
SLOW ZONE

4 TRACK AREA-WORKMEN & FLAGMEN PRESENT

**WORK AREA IS ON TRACK #3.
TRACK #2 & #4 ARE ALSO FOULED.**

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.



Safety/Graphics-LN/JFS 08/98

LN980013J

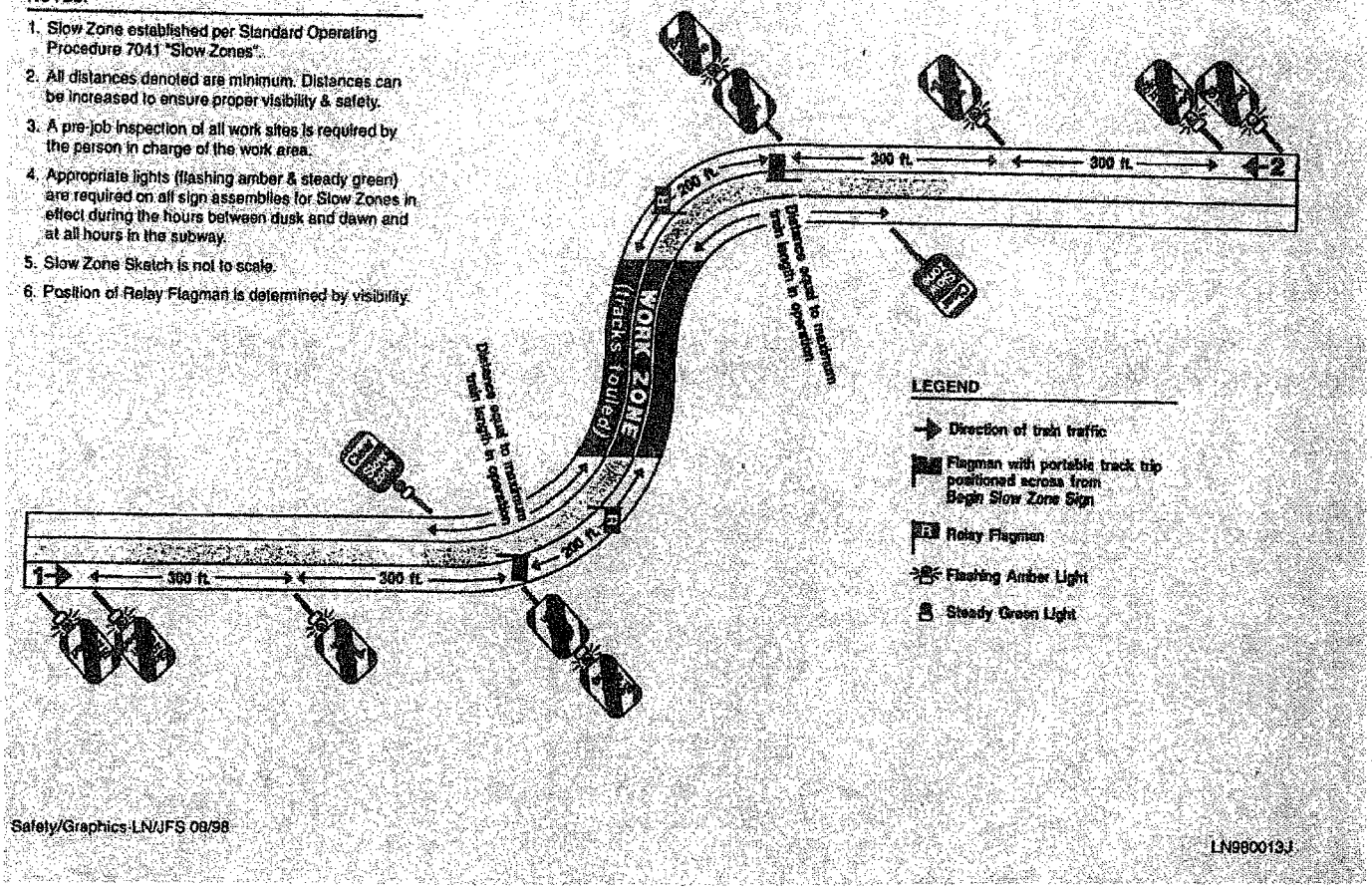
SLOW ZONE

2 TRACK AREA-WORKMEN & FLAGMEN PRESENT

WORK AREA IS ON ONE TRACK. BOTH TRACKS ARE FOULED.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.
6. Position of Relay Flagman is determined by visibility.



Safety/Graphics LN/JFS 08/98

LN980013J

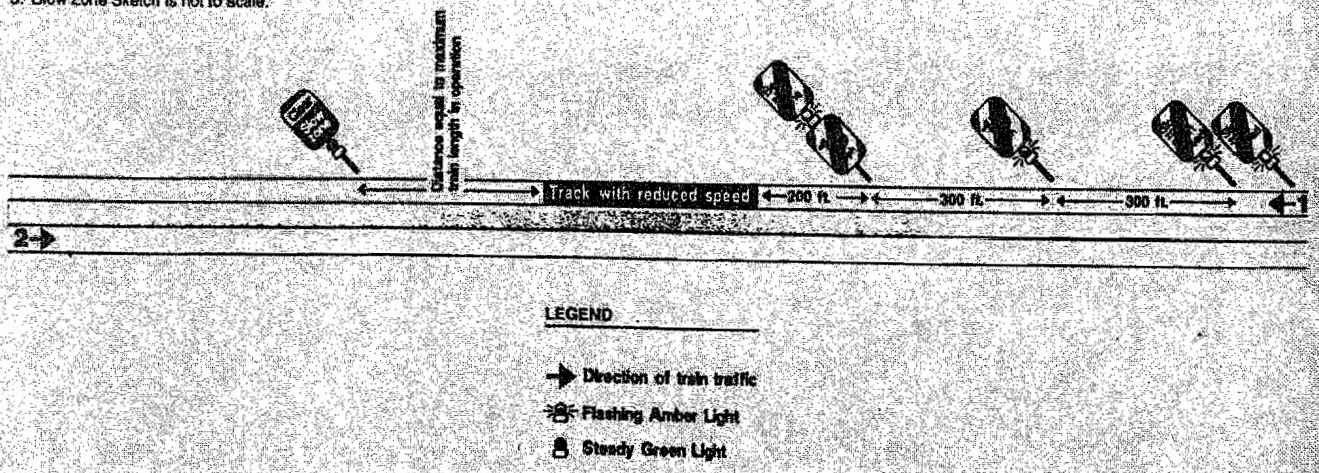
SLOW ZONE

2 TRACK AREA-NO WORKMEN & FLAGMEN

DUE TO TRACK CONDITION, REDUCED SPEED (15 MPH) IS REQUIRED ON TRACK #1, 24 HOURS A DAY.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.



LEGEND

- Direction of train traffic
- Flashing Amber Light
- Steady Green Light

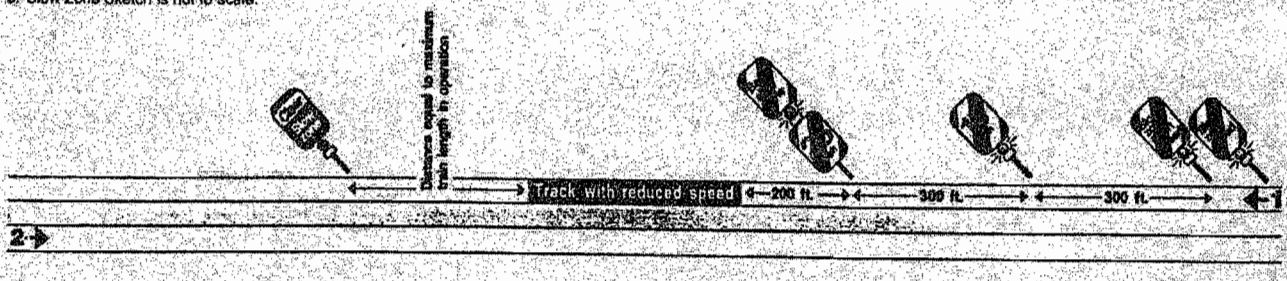
SLOW ZONE

2 TRACK AREA-NO WORKMEN & FLAGMEN

DUE TO TRACK CONDITION, REDUCED SPEED (25 MPH) IS REQUIRED ON TRACK #1, 24 HOURS A DAY.

NOTES:

1. Slow Zone established per Standard Operating Procedure 7041 "Slow Zones".
2. All distances denoted are minimum. Distances can be increased to ensure proper visibility & safety.
3. A pre-job inspection of all work sites is required by the person in charge of the work area.
4. Appropriate lights (flashing amber & steady green) are required on all sign assemblies for Slow Zones in effect during the hours between dusk and dawn and at all hours in the subway.
5. Slow Zone Sketch is not to scale.



LEGEND

- Direction of train traffic
- Flashing Amber Light
- Steady Green Light

SLOW ZONE EQUIPMENT LISTING

DESCRIPTION	ITEM #	U/M
SLOW ZONE SIGN ASSEMBLIES		
ASSEMBLY: "SLOW ZONE AHEAD"	1957020	pc
ASSEMBLY: "SLOW ZONE 600 FEET AHEAD"	1957021	pc
ASSEMBLY: "15 MPH"	1957022	pc
ASSEMBLY: "BEGIN SLOW ZONE/6 MPH"	1957023	pc
ASSEMBLY: "CLEAR SLOW ZONE"	1957024	pc
SLOW ZONE BRACKETS		
BRACKET: SLOW ZONE for ballasted track	1950201	pc
BRACKET: SLOW ZONE, angular for open decks	1950202	pc
BRACKET: SLOW ZONE, for open deck footwalks	1950203	pc
BRACKET: SLOW ZONE, for subway round handrail	1950204	pc
BRACKET: SLOW ZONE, for open deck fiberglass footwalk		
SLOW ZONE SIGNS		
SIGN: "SLOW ZONE AHEAD"	2107014	pc
SIGN: "SLOW ZONE 600 FEET AHEAD"	2107015	pc
SIGN: "BEGIN SLOW ZONE"	2107017	pc
SIGN: "CLEAR SLOW ZONE"	2107022	pc
SIGN: "6 MPH"	2107018	pc
SIGN: "10 MPH"	2107019	pc
SIGN: "15 MPH"	2107016	pc
SIGN: "25 MPH"	2107020	pc
SIGN: "35 MPH"	2107021	pc
SLOW ZONE MISCELLANEOUS EQUIPMENT		
STAFF: REPLACEMENT, predrilled for slow zone	1957025	pc
BATTERY: 6 Volt dry cell for lights	3141263	pc
LIGHT: AMBER, flashing, battery powered	3144017	pc
LIGHT: STEADY GREEN battery powered	3144018	pc

SECTION 02 20 00

EXCAVATION AND DISPOSAL

PART 1 - GENERAL

1.01 DESCRIPTION

A. The work to be done under this Section consists of the excavation, removal, transportation, and disposal of sub-grade materials.

1.02 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.

B. The work shall conform to all requirements of the Chicago Transit Authority (CTA) and other applicable codes.

C. Follow all applicable regulations, codes and ordinances when removing, transporting and disposing the excavated materials.

D. Removal of unsuitable materials shall be performed by a licensed special waste hauler possessing all applicable permits/licenses and training to haul special waste.

1.03 PROJECT CONDITIONS

A. Site Information:

1. Locations designated for special-waste ballast removal to be identified by the CTA and the project drawings.

B. Existing Utilities: Locate existing underground utilities in areas of excavation work. If utilities are indicated to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with the CTA and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

2. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shutoff of services if lines are active.

C. Use of Explosives: Use of explosives is not permitted.

D. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warnings.

1. Operate any warning lights as recommended by the authorities having jurisdiction.

2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

PART 2 - PRODUCTS

2.01 EXCAVATION, TRANSPORT AND DISPOSAL

A. The Contractor shall furnish all necessary materials and equipment complying with Federal, State, County, CTA, and Local Rules and Regulations to fulfill the scope of work described in the detail specifications for this Section.

B. The Contractor will be responsible for and obtain at their own expense: transportation/disposal permits and other necessary permits, equipment registrations, operating certificates, and any other document required by applicable codes, regulations, and laws.

C. The Contractor, subcontractors, and their employees shall be thoroughly trained in the safe work practices, procedures, and regulatory requirements for excavation, transport, and disposal of lead and PNA-impacted soils.

D. Remediation will be conducted in accordance with all applicable regulations and guided by the CTA.

E. The Contractor shall furnish necessary barricades, caution tape, and fencing, as needed, to secure each open excavation at the end of the workday.

F. The Contractor shall operate with great care and sensitivity to not knowingly damage any fixed structure or item specifically designated by the CTA.

G. Construction signage, as needed, shall be posted with dates notifying the public of upcoming construction, at least seven (7) days prior to the start. Signage shall be located near the public entrance as well as any other points designated by the CTA. Any related construction barriers required to maintain the health, safety, and welfare of the public and workers will be the responsibility of the Contractor.

H. The Contractor, at his own expense, prior to commencing work, must identify locations of existing drainage structures and sewers. All drainage structures are to be kept free of any debris resulting from the Contractor's operations. All work and materials necessary

to prevent accumulation of debris in the drainage structures will be considered as incidental to the contract. Any accumulated debris in the drainage structures from the Contractor's operations shall be removed at the Contractor's expense with no extra compensation being allowed.

PART 3 - EXECUTION

3.01 PREPARATION

A. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, crushing, and other hazards created by earthwork operations.

B. Provide erosion control measures to prevent erosion or displacement.

C. Determine the location of any underground utilities or other items or structures that may be close to the proposed excavations. Utility lines are to be flagged before beginning the work.

D. Secure utility clearance with J.U.L.I.E./DIGGER and to the excavation

3.02 STABILITY OF EXCAVATIONS

A. General: Comply with local ordinances, local codes, and requirements of agencies having jurisdiction to maintain stable excavations.

B. Slope sides of excavations to comply with local ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

C. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers, and cross braces, in good serviceable condition. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Extend shoring and bracing as excavation progresses.

D. Removal of any temporary earth retention structure shall coincide with placement of backfill and be performed in such a manner as to ensure stability of all adjacent structures.

3.03 DEWATERING

A. Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of sub-grade and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from removal area.

3.04 EXCAVATION

A. Do not use explosives.

B. The Contractor shall furnish all necessary materials and equipment to perform the required work.

C. Excavate as required to extent required. Remove all special-wastes and dispose of all materials including ballast, debris, rubble, abandoned structures, foundations, footings, utility structures and pipes. All materials are to be disposed of properly off site at a facility permitted for disposal special-waste.

D. Comply with the following OSHA Part 1926 – Safety and Health Regulations for Construction, Subpart P – Excavation.

1. 1926.650 - Requirements for Open Excavations
2. 1926.651 - Requirements for Specific Excavations
3. 1926.652 - Requirements for Protective Systems
4. 1926.653 - Definitions

E Before beginning trenching operations, stake out the proposed ductbank routing including trench width and obtain approval from the Owner's representative. After trenching has begun and before any ducts or conduits are placed, notify the Engineer so that the trenching and installation may be inspected. Also notify the Engineer prior to any placement of concrete for duct banks, so that he may observe the placement

F Excavate to permit installation of the duct bank along the grades shown on the Drawings. Deviations to ductbank depth must have prior approval from the Engineer.

G Excavate a trench of sufficient width to allow thorough compacting of the backfill under and around the duct bank. A level sand bed a minimum of 6 inches deep shall be placed in the trench before conduit is installed

H Where excavation is in rock, remove all rock to a depth below the grade shown on the Drawings. Rock is defined as material that cannot be ripped or excavated by a backhoe with a one cubic yard bucket with rock teeth. Water shall be continuously pumped out from the trench.

I. The Engineer's approval is required for the extent of the trench excavation prior to the duct bank installation. Contractor shall schedule excavation in accordance with the

Engineer's requirements prior to beginning construction.

J. Provide all necessary bracing and bridging to maintain traffic flow during construction through all areas interrupted by trenching. Provide construction signage, traffic barriers, and warning notices throughout the construction period.

K. Provide all necessary repairs to erosion control measures and reseeding of grass in areas disturbed by trenching.

L. Sheet and brace the excavation as required to prevent caving. The trench width may be increased accordingly. Maintain sheeting until the ductbank has been inspected and backfilled. Leave sheeting and shoring in place where directed by the Engineer.

3.05 REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

A. Material contaminated with fuel oil, lead, PNA's, or any other regulated substance above IEPA TACO Tier 1 SRO's must be excavated, removed and disposed of properly as special-waste in an approved landfill. All local, state, federal, OSHA, EPA, CTA, and any other applicable regulations must be adhered to for the handling, transport, and disposal of such material. This contaminated material may be encountered during excavations, tank removal, or other work; may be specified as such in the contract documents; may be discovered in the field; or may be otherwise identified by the CTA.

END OF SECTION

SECTION 31 20 00

EARTHWORK

PART 1) GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and Division 01 Specification sections, apply to this section.

1.02 SUMMARY

A. This Section includes but is not limited to the following:

1. Preparing and grading subgrades and providing subbase course for slabs on grade, walks, curb and gutter and pavements.
2. Excavating and backfilling for building foundations and footings, column foundations and footings, piers and other structures.
3. Excavating and backfilling for concrete for bollards, guard rails, fence posts, and other site work.
4. Soil and grading for planters, trees, shrubs and landscaping.
5. Removal and disposal of unsuitable soil or subgrade materials. Removal and stockpiling of material suitable for backfilling.
6. Providing, installing and compaction of fill and backfill materials.
7. Excavating and backfilling for underground sewer, water supply, catch basins, manholes, meter vault and electrical utilities and appurtenances.
8. Any other earthwork as shown on the drawings or required for installation of the new work.

B. Related Sections: The following sections contain requirements that relate to this section.

1. Division 02 Section, Demolition.
2. Division 03 Section, Concrete.
3. Division 32 Section, Landscaping.

1.03 DEFINITIONS

A. Excavation consists of removal of material encountered to subgrade elevations indicated and subsequent disposal or stockpiling of materials removed.

B. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Authority. Unauthorized excavation, as well as remedial work directed by Authority, shall be at Contractor's expense.

1. Fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, when acceptable to Authority. Unauthorized excavation may also be filled with compacted granular fill as approved by the Authority.

C. Unsuitable materials: Material which cannot be left in place for structural support of subsequent construction as determined by the Authority or material contaminated with fuel oil, lead or any other regulated substances.

D. Additional Excavation: When excavation has reached required subgrade elevations,

notify Authority, who will make an inspection of conditions. If Authority determines that bearing materials at required subgrade elevations are unsuitable, continue excavation until suitable bearing materials are encountered and replace excavated material as directed by Authority.

E. Subgrade: The undisturbed earth or the compacted soil layer immediately below granular subbase, drainage fill, or topsoil materials.

F. Structure: Buildings, foundations, piers, footings, slabs, curbs, or other man-made stationary features occurring above or below ground surface.

1.04 SUBMITTALS

A. Test Reports: As required by the Authority, submit the following reports directly to the Authority from the testing services, with copy to Contractor:

1. Verification of suitability and bearing capacity of each footing subgrade material, in accordance with specified requirements.
2. Field reports; in-place soil density tests.
3. Test reports of unsuitable and contaminated soil or subgrade materials.

B. Procedures, certificates, permits, transport and land fill manifests, etc. for removal and disposal of contaminated soil or subgrade materials.

C. Submittal by a licensed structural engineer of a drawing for the design of a temporary excavation shoring support system and including sealed calculations to the Authority for review and approval prior to beginning construction.

1.05 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.

B. Except as modified herein, the work shall be performed in accordance with the applicable portions of the Illinois Department of Transportation Standard Specifications.

1. Except as modified herein, the work shall conform to the applicable portions of the Standard Specifications, Section 502.
2. Excavation of unsuitable material shall conform to Section 202.
3. The installation of porous granular backfill shall conform to Section 209.

C. Testing and Inspection Service: Contractor will employ and pay for a qualified independent geotechnical testing and inspection laboratory to perform soil testing and inspection service during earthwork operations as required by the Authority.

D. Follow all applicable regulations, codes and ordinances when removing, transporting and disposing of contaminated subgrade materials.

1.06 PROJECT CONDITIONS

A. Site Information:

1. Soil conditions are assumed to meet the design criteria implied by the details indicated on the drawings.
2. Additional test borings and other exploratory operations may be performed by Contractor, at the Contractor's option; however, no change in the Contract Sum will be authorized for such additional exploration.

B. Existing Utilities: Locate existing underground utilities, including cables, in areas of excavation work. If utilities and cable are indicated to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Authority and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
2. Do not interrupt existing utilities serving facilities occupied by Authority or others, except when permitted in writing by the Authority and then only after acceptable temporary utility services have been provided. Provide minimum of 48-hour notice to Authority, and receive written notice to proceed before interrupting any utility.

C. Use of Explosives: Use of explosives is not permitted.

D. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

1. Operate warning lights as recommended by authorities having jurisdiction.
2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
3. Protect pedestrian traffic from excavations. Provide barricades and jersey barricades as required and approved. Re-route traffic from traffic areas to be excavated.

E. The Contractor is responsible to hire a licensed structural engineer to design a temporary excavation shoring support system and submit sealed calculations and drawings to the Authority for review and approval prior to beginning construction.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, SW, SP and SM.

B. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT. Unsuitable materials shall be classified as material which cannot be left in place for structural support of subsequent construction as determined by the Authority or material that is contaminated.

C. Aggregate Base Course shall be type "A" in accordance with Section 301 of the Standard Specifications.

D. Subbase Material: To be used under structural slabs, and paved areas shall be naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, and natural or crushed sand, gradation CA-6 in accordance with IDOT Section 704 of the Standard Specifications.

E. Backfill and Fill Materials: Satisfactory soil materials free of expansive clay, rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, wood, glass, metals, organic material, vegetation, concrete, bituminous pavement, masonry and other deleterious matter from on-site excavation or CA-6 as per IDOT 1988. In addition, the material shall have a standard dry density of not less than 90 pounds per cubic foot when

tested in accordance with AASHTO T99 and shall not possess an organic content greater than 10% when tested in accordance with AASHTO T194.

F. Granular fill or backfill shall be crushed coarse aggregate having a CA-6 gradation conforming to applicable portions of the Standard Specifications, Section 704.

G. Porous granular backfill shall have a CA-18 gradation conforming to Section 704 of the Standard Specifications.

H. Bedding Material: Bedding material shall be fine aggregate having a FA-21 gradation conforming to Section 1004.01 of the Standard specifications. This material shall be used in all pipe trenches.

I. Trench Backfill: Trench backfill shall be a fine aggregate having a FA-21 gradation conforming to Article 1003.01 of the Standard Specifications.

J. Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D448, coarse aggregate grading size 57, with 100 percent passing a 1-1/2 inch sieve and not more than 5 percent passing a No. 8 sieve.

K. Filtering Material: Evenly graded mixture of natural or crushed gravel or crushed stone and natural sand, with 100 percent passing a 1-1/2 inch sieve and 0 to 5 percent passing a No. 50 sieve.

L. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

M. The use of chats, wet bottom boiler slag or slag sand shall not be allowed for fill.

N. Bearing soil or subbase for the installation of concrete foundation work shall be of 3000 psf bearing capacity minimum unless required or noted otherwise.

O.

PART 3 EXECUTION

3.01 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, crushing, and other hazards created by earthwork operations. Protect landscaping.

B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.

C. Determine the location of any underground utilities or other items or structures that may be close to the proposed excavations. Utility lines are to be flagged before beginning the work.

D. Contractor is responsible to have the limits and elevations for his excavations properly surveyed by a licensed surveyor, and clearly marked at the site.

E. Any disturbance or damage to existing structures, utilities, or other property, caused by the Contractor's operation shall be repaired by the Contractor in a manner satisfactory to the Authority and at no additional cost to the Authority.

F. Existing pavements, alleys, curbs and sidewalks shall be saw-cut prior to removal.

3.02 STABILITY OF EXCAVATIONS

A. General: Comply with local codes, ordinances, and requirements of agencies having jurisdiction to maintain stable excavations.

B. Slope sides of excavations to comply with local codes, ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

C. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers, and cross braces, in good serviceable condition. Install as required to support excavation. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Extend shoring and bracing as excavation progresses. Removal of any temporary earth retention structure shall coincide with placement of backfill and be performed in such a manner as to ensure stability of all adjacent structures.

3.03 DE-WATERING

A. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

3.04 STORAGE OF EXCAVATED MATERIALS

A. Stockpile excavated materials acceptable, as designated by the Engineer, for backfill and fill. Place, grade, and shape stockpiles for proper drainage. Do not intermix materials. Cover to prevent wind-blown dust.

1. Locate stockpiled excavated materials in a location approved by the Authority.
2. Locate and retain soil materials away from edge of
3. excavations and out of the way of construction activities
4. Dispose of excess excavated soil material and materials not acceptable for use as backfill.

3.05 EXCAVATION

A. Excavate as required to extent required. Stockpile excavated material suitable for backfill. Remove all unsuitable materials and dispose of all materials not suited for backfill including debris, rubble, abandoned structures, existing foundations and footings, stone bases, stone piers, abandoned utility structures and pipe, pavements, curbs and gutters, tiebacks, deadmen, fill and landscaping not to be reused. All unsuitable materials to be disposed of properly off site.

B. Excavate unsuitable soil or materials where indicated, under new structure, or as otherwise required. Excavate to solid bearing. Remove and dispose of properly all excavated unsuitable soil or other materials.

C. Excavations adjacent to existing foundations which are to remain shall be performed in such a way as to insure the stability of the existing foundations.

D. All excavations shall be secured with temporary barriers.

E. Do not over excavate unless required to obtain solid bearing or remove unsuitable materials and only with Authority's approval.

3.06 EXCAVATION FOR STRUCTURES

A. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 foot, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, and other construction and for inspection.

B. Excavations for footings, piers and foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed.

3.07 EXCAVATION FOR PAVEMENTS, WALKS AND SLABS

A. Excavate surface under slabs to comply with cross-sections, elevations and grades as indicated. Excavate as required to a solid, clean subgrade free of debris.

3.08 APPROVAL OF SUBGRADE

A. Notify the Authority when excavations have reached required subgrade.

B. When the Authority determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted fill material as directed.

C. Unsuitable soil may be soil of insufficient bearing strength or soil that is loose, mixed with debris. Bearing capacity to be determined by independent testing agent. Contractor to arrange for and pay for testing.

D. Insufficient bearing soil can be corrected by deeper or wider excavation or additional excavation and compacted approved fill. Additional excavation work, compacted fill or additional concrete work required and approved by the Authority will be paid according to the contract provisions for changes in the work. Additional excavation must be approved in writing by the Authority.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activity, as directed by the Authority.

3.09 UNAUTHORIZED, EXCESSIVE OR EXTENDED EXCAVATION

A. Fill unauthorized, excessive or extended excavation under foundations or footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation; or fill with compacted granular fill, as approved by the Authority.

3.10 COLD WEATHER PROTECTION

A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.11 UNSUITABLE EXCAVATION

A. All unsuitable excavated material and excess material not used for backfill or subgrade shall be disposed of at an approved off-site location. The Contractor shall provide written authorization to the Authority for the use of that location.

3.12 GRANULAR FILL AND BACKFILL

A. Granular fill or backfill shall be placed in accordance with Article 351 of the Standard Specification.

B. Granular fill CA-6 shall be used for filling unauthorized, excessive or extended excavations from the bottom of the excavation to the bottom of the footing. Granular fill shall be installed and compacted in layers of maximum depth of 1'-0" per compacted layer.

C. A Lean Concrete Mix shall be used for fill greater than 1'-0" below the bottom of spread footing elevation.

D. Granular backfill CA-6 shall be used for backfilling above the bottom of footing elevation after use of all suitable backfill material.

E. Before granular backfill material is deposited under and around foundations, it shall contain the proper amount of moisture required for compaction as determined by the Authority for the material and compaction methods used. Moisture shall be added to the material during compaction only when it is necessary to increase the percentage of moisture to obtain satisfactory compaction and to prevent segregation.

F. Granular fill or backfill CA-6 shall be placed in maximum lifts of six (6) inches and compacted immediately after placing to 95% maximum relative density as determined by AASHTO T99, Method C. The granular material shall be placed in the full width of the excavation with equipment as approved by the Authority and in such a manner which will not cause segregation and which will require minimum blading or manipulation.

G. Compaction tests shall be made at the direction of the Authority.

H. Granular fill or backfill CA-6 only shall be used as backfill beneath all areas of new and existing streets, asphalt, sidewalks, curbs or other pavements.

3.13 BACKFILL

A. General: Place soil material in layers to required subgrade elevations, for each area classification listed below, using materials specified in Part 2 of this Section.

1. In All Excavations: General backfill and fills, use satisfactory excavated or borrow material.
2. Under building slabs, walks and pavements, use compacted granular fill only.
3. Backfill trenches with concrete where trench excavations pass within 18 inches of column or wall footings and that are carried below bottom of such footings or that pass under wall footings. Place concrete to level of bottom of adjacent footing.

B. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Acceptance of construction below finish grade including, where applicable, perimeter insulation.
2. Inspection, testing, approval, and recording locations of underground utilities have been performed and recorded.
3. Removal of concrete formwork.
4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities, or leave in place if required.
5. Removal of trash and debris from excavation.
6. Permanent or temporary horizontal bracing is in place on horizontally supported

walls.

7. Removal of temporary sheet piling and cribbing shall coincide with the placement of backfill and be performed in such a way as to insure the stability of all adjacent shoring and structures.

3.14 PLACEMENT AND COMPACTION OF BACKFILL

A. Place fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

C. Backfilling shall proceed immediately after installation of the foundation where applicable, but not prior to seven days after concrete placement or as approved by the Engineer.

D. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.

E. Control fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Engineer if soil density tests indicate inadequate compaction.

1. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density, in accordance with ASTM D 1557:

a. Under structures, building slabs and steps, and pavements, compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum density.

b. Under walkways, compact top 6 inches of subgrade and each layer of backfill or fill material at 95 percent maximum density.

2. Moisture Control: Where subgrade must be moisture conditioned before compaction, uniformly apply water to surface of subgrade material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or subsequent to compaction operations.

a. Remove and replace, or scarify and air dry, fill material that is too wet to permit compaction to specified density.

F. Granular backfill material is to have 6" maximum differential in lifts on all sides and uniformly compacted to 95% of the standard laboratory density at optimum moisture content and tested by an Illinois Geotechnical Engineer, according to IDOT Spec., Article 205.06.

G. Compaction: The CA6 material shall be placed in 4 inch to 8 inch horizontal lifts and uniformly compacted to 95% of the standard laboratory density at optimum moisture content and tested by an Illinois Licensed Geotechnical Engineer and submit the test results to the Authority for review.

3.15 GRADING

A. Grading Surface of Fill under Building Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 1/2 inch when tested with a 10-foot straightedge.

B. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

3.16 PAVEMENT SUBBASE COURSE

A. General: Subbase course consists of placing subbase material, in layers of specified thickness, over subgrade surface to support a pavement base course. Refer to other Division 2 sections for paving specifications.

B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Shoulders: Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12-inch width of shoulder simultaneous with the compaction and rolling of each layer of subbase course.

D. Placing: Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations. When a compacted subbase course is indicated to be 6 inches thick or less, place material in a single layer. When indicated to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

3.17 FIELD QUALITY CONTROL

A. All material, fill, and backfilling operations shall be subjected to testing at the Authority's discretion by a qualified testing agency retained and paid for by the Contractor and approved by the Authority.

B. Quality Control Testing During Construction: Allow testing service to inspect and approve each subgrade and fill layer before further backfill or construction work is performed.

1. Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable.

   a. Field density tests may also be performed by the nuclear method in accordance with ASTM D 2922, providing that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. In conjunction with each density calibration check, check the calibration curves furnished with the moisture gages in accordance with ASTM D 3017.
   b. If field tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Authority.

2. Footing Subgrade: For each strata of soil on which footings will be placed, perform at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata when acceptable

to Authority.

3. Paved Areas and Building Slab Subgrade: Perform at least one field density test of subgrade for every 2,000 sq. ft. of paved area or building slab, but in no case fewer than three tests. In each compacted fill layer, perform one field density test for every 2,000 sq. ft. of overlaying building slab or paved area, but in no case fewer than three tests.
4. Foundation Wall Backfill: Perform at least two field density tests at locations and elevations as directed.
5. If in opinion of Authority, based on testing service reports and inspection, subgrade or fills that have been placed are below specified density, perform additional compaction and testing until specified density is obtained.

3.18 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from Authority's Property: Remove waste and excess materials, including unacceptable or excess excavated material, trash, and debris, and dispose of it legally off Authority's property.

B. The Contractor shall furnish the Authority with information on the manner and location of disposal as well as evidence of their authority to use the location.

3.19 REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

A. Material contaminated with fuel oil, lead or any other regulated substance must be excavated, removed and disposed of properly as hazardous waste in approved land fills. All local, state, federal, OSHA, EPA, and any other applicable regulations must be adhered to for the handling, transport, and disposal of such material. This contaminated material may be encountered during excavations, or may be otherwise identified by the Authority.

END OF SECTION

END SECTION

SECTION 34 42 03

EQUIPMENT REMOVAL

PART 1: GENERAL

1.01 DESCRIPTION:

The work to be done under this Section consists of equipment removal and salvage within the project limits as it pertains to the existing signal, communication, and traction power system facilities that must be removed or protected to permit installation of the new signal system equipment. Existing equipment is shown on location plans included within the drawings.

1.02 MATERIAL STORAGE

Any areas or facilities used by the Contractor for storage of materials to be delivered to the Authority shall provide protection from the weather and humidity. Relative humidity shall not exceed 70 percent.

1.03 SUBMITTALS

The Contractor shall submit a diagrammatic plan to the Engineer for approval. This plan shall show the method and means by which the existing facilities will be protected in-place. The submittal shall include sufficient information to enable evaluation by the Engineer of the adequacy of the proposal to provide that protection.

PART 2: PRODUCTS

2.01 MATERIALS

A. The Contractor shall provide wooden crating, pallets, boxes, cartons, empty cable reels, and light steel strapping or equivalent tying material, all in quantities sufficient for transporting and protecting any salvaged materials or equipment consigned to the Authority's stores, yards, or shops.

B. The Contractor shall provide marking materials including both tape and permanent marking pens to identify units of equipment and components for disposition and material audit purposes.

PART 3: EXECUTION

3.01 REMOVAL AND SALVAGE

A. Removed and delivered to protected on the Authority: The material, identified on the Contract Drawings and within these Specifications, and subject to reuse by the Authority, shall be disconnected in place and in a careful manner so as to avoid damage, removed from wayside and placed into a crate, box, or pallet to be protected during construction.and delivered to the Authority as hereinafter specified.

B. A material salvage report in quadruplicate shall be prepared by the Contractor listing item description, location, serial number where available, condition, and date delivered. Upon removal delivery to the Authority at locations, as specified herein, the appropriate Authority representative will verify receipt by signature. The Contractor shall tender three (3) copies to the Authority.

C. Materials to be removed intact, without damage and protected returned to the Authority shall include the following:

1. Switch machines, heater cases, train stops, route selectors, signals.

2. Switch-and-lock movements and hand-throw switches, including junction boxes, shall be marked by location (switch number), secured for transportation and delivery to the Authority.
3. All relay houses. All internal equipment to be protected from damage arising from the demolition/removal process. Relays shall be removed, protected, and shipped crated or boxed, on the floors of the buildings.
4. Signals and train stop mechanisms.
5. Signal Equipment cases.
6. Relays. Relays shall be removed, protected, and shipped crated or boxed.

D. The Authority will designate the amount of the following materials to be removed and salvaged. The materials not designated shall be removed and scrapped as described herein:

1. Wayside signal ABS system case-mounted and rack-mounted components in cases and signal rooms, and track-mounted components as identified by the Engineer. In general, wayside case and rack-mounted components will consist of relays, transformers, resistors and power supplies. The track-mounted components will include train stops, as shown on the Contract Drawings. The Contractor shall remove and deliver these components to the Authority.
2. Wayside color light signal layouts, including heads, masts, and mast-mounted junction boxes.
3. Electric train stop layouts, including hold-downs and brackets.
4. Relays and other designated equipment from the existing towers and relay rooms.
5. The existing signal power transformers, disconnect switches and enclosures, and transfer switches and enclosures.
6. Impedance bonds

3.02 REMOVAL AND SCRAP

All scrap materials shall become the property of the Contractor and shall be disposed of away from the project site at the locations designated in the Contractor's "Certificate of Dumping Facilities" in the Contract Proposal. These scrap materials shall include but not be limited to the following:

A. All existing signal cable and return connections.
B. Wayside cable risers.
C. Abandoned wayside equipment not designated as described in Paragraph 3.01.
D. All abandoned signal system messenger and abandoned brackets.
E. All abandoned signal cables.
F. Wayside signal system power feeder cables.
G. Concrete foundations for all abandoned signal equipment. Concrete foundations for cases mounted on top of manholes shall be covered and secured with a metal plate.
H. Tower and relay room cabling materials as shown on the Contract Drawings.
I. All other signal equipment supports, brackets, hardware for abandoned signal equipment.
J. The existing insulated joints for any automatic block signal locations shall be removed and replaced with standard joint bars and track bolts, and bonded.
K. Signal and communication wooden poles, concrete poles, and pole line supports that are retired from service.
L. The existing air line system, including compressors, main air lines, taps, laterals, mounting hardware, valves, drips, expansions, and anchors.

3.03 PROTECTION OF FACILITIES

A. The Contractor shall protect in-place the following items:

1. The existing signal system equipment and cables during the installation and cutover of the signal system.
2. Other items, including, but not limited to traction power cables, potheads, return

cables, buses, C-bonds and switches.

END OF SECTION

SECTION 34 42 10

SIGNAL SYSTEM DUCT BANK

PART 1: GENERAL

1.01 DESCRIPTION

A. This section specified the requirements for conduits encased in reinforced concrete.
B. The work under this section shall include furnishing all labor, materials and equipment required for furnishing and installing conduit encased in reinforced concrete, including excavating and backfilling trenches, mandrelling conduit, specified fittings, appurtenances and all other related work associated with the construction and installation of conduit encased in reinforced concrete.

PART 2: PRODUCTS

2.01 MATERIALS

A. Concrete for duct bank specified in Section 03 30 10 of these Specifications.
B. Fiberglass conduit: Section 34 42 38

1. Shall comply with latest UL/CSA/NEMA standards
2. Phenolic Conduit System that conforms to NFPA 130
3. ISO 9001:2008 certified company

C. Concrete Reinforcement shall be #5 throughout and comply with section 03 20 10.

PART 3: EXECUTION

3.01 TRENCHING

A. Take precaution to ensure no damage to existing facilities, equipment or other work.
B. All surplus excavated material will be disposed of in a legal dumpsite or landfill as required by law.
C. When working, Contractor shall keep ballast separate from sub-ballast so as not to contaminate ballast material.
D. Open trench completely between vaults to be connected before ducts are laid and ensure that no obstructions will necessitate change in grade of ducts.

3.02 CONDUIT INSTALLATIONS

A. General:

1. The conduit system shall be installed complete with all accessories, fittings, in an approved and workmanlike manner to provide proper raceways for electrical conductors.
2. 3 ½" SW and HW FRE conduit shall be used for conduit system.
3. Prior to laying ducts, construct "mud slab" not less than 3 inches thick. Install base spacers at maximum intervals of 36 inches levelled to grades indicated for bottom layer of ducts.
4. All conduit runs shown on the Drawings are shown diagrammatically for the purpose of outlining the general method of routing the conduits. Conduit shall be run underground in concrete encased duct banks as shown on the Drawings. Reinforcements shall be installed in duct banks. It shall be the Contractor's responsibility to avoid interferences.
5. Factory-made conduit bends or elbows shall be used wherever possible in making

necessary changes in direction. Field bends shall be made with proper tools for the size and type of conduit being used. Field bends shall be carefully made to prevent conduit damage or reduction in internal areas. The bending radius shall not be less than six times the nominal diameters of the conduit, with carefully matched bends on parallel runs to present a neat appearance. The number of crossovers shall be kept to a minimum.

6. All conduits shall be carefully cleaned before and after installation and all inside surfaces shall be free of imperfections likely to injure the cable. Cap ends of ducts during construction and after installation to prevent entrance of foreign materials. After installation of complete runs, all conduits shall be snaked with an approved tube cleaner equipped with an approved cylindrical mandrel of a diameter not less than 85 percent of the nominal diameter of the conduit. Any conduits through which the mandrel will not pass shall be removed and replaced. After snaking, the ends of the dead-ended conduits shall be protected with Thermoplastic Plugs as provided by Champion Fiberglass (35B-SW-26) or equivalent to prevent the entrance of water or other foreign matter.
7. Lines of nylon or polypropylene, propelled by carbon dioxide or compressed air, shall be used to snake or pull wire and cable into conduits. Flat steel tapes or steel cables may be used for branch circuit runs less than 50 feet long.
8. Where conduits are connected to boxes or equipment enclosures, drilled holes or full size knockout openings shall provide electrical continuity for grounding and shall be assured by the use of bonding type locknuts. Where connections are at eccentric or concentric knockouts, jumper type grounding bushings and wire jumpers shall be installed.
9. Conduit bends which are crushed or deformed in any way shall not be installed.
10. Lay ducts with configuration as indicated with preformed interlocking, rigid plastic intermediate spacers to maintain spacing between ducts at not less than (1.5 inch) horizontally and vertically. Stagger joints in adjacent layers at least 150 mm (6 inch). Encase duct bank with 75 mm (3 inch) thick concrete cover all around. Use Heavy Wall Direct Buried FRE conduits for sections extending out of concrete conduit underground.
11. Make transpositions, offsets and changes in direction using 5 degree bend sections, do not exceed a total of 20 degree with duct offset.
12. Use reducing adapter when connecting SW FRE to HW FRE outside of duct bank for direct buried[] routing.
13. Terminate duct runs with duct coupling set flush with end of concrete envelope when dead ending duct bank for future extension.
14. Cut, ream and taper end of ducts in field in accordance with manufacturer's recommendations, so that duct ends are fully equal to factory-made ends
15. Allow concrete to attain 50% of its specified strength before backfilling.
16. Use anchors, ties and trench jacks as required to secure ducts and prevent moving during placing of concrete. Tie ducts to spacers with twine or other non-metallic material. Remove weights or wood braces before concrete has set and fill voids.

3.03 DUCT BANK CONSTRUCTION

A. Install top of duct bank at least 36 inches below finished grade.
B. Build duct bank and hand holes on undisturbed soil or on well compacted granular fill not less than 6 inches thick, compacted to 95% of maximum proctor dry density.
C. Build formwork around conduits in trench to avoid unnecessary excessive waste of concrete.
D. Install reinforcing rods the length of run of duct bank.
E. Duct banks connecting to a hand hole will enter 4 inches into hand hole through a clear opening with at least 4 inches on either side.
F. Void space around duct bank will be filled with concrete to enclose.
G. Contractor shall find and submit submittal for suitable hand hole that will be accessible at ground level. Also hand hole will allow for duct bank to enter 4 inches inside via knock out

wall or open clearing. Hand holes will require more than one knockout wall or clearing to allow different directional paths of duct banks. Hand hole shall be 5x5x6.

H. Hand Holes must be reinforced with steel according to latest ASTM A-515 Grade 60, A706 Grade 60 or A497 Grade 70. Such vaults can be found from Oldcastle Precast. Size of vault will be determined by Contractor to allow for adequate space based on size of ducts.

3.04 CONDUIT CONNECTIONS TO EQUIPMENT

A. The conduit system shall be terminated at the conduit connection point of electric motors, devices, and equipment. Terminations of conduits at such locations shall permit direct wire connections to the motors, devices, or equipment.

B. Conduit connections shall be made with rigid conduit if the equipment is fixed and not subject to adjustment, mechanical movement, or vibration. Rigid conduit connections shall have union fittings, to permit removal of equipment without cutting or breaking the conduit.

C. Conduit connections shall be made with approved flexible metallic conduit if the equipment is subject to adjustment, mechanical movement, or vibration. Where the flexible metal conduit is used for any connection it shall be limited to 18 inch length. Connections to lighting fixtures installed in a non-accessible ceiling are specified elsewhere in this document.

1. Boxes shall be installed true and plumb, so that the covers or plates shall be level and at uniform elevations for the type of outlets contained.
2. Boxes for toggle switches and pilot lights at doorways shall be located at the strike side of the door.

D. There shall be no more openings made in any box than are required for the conduits entering same. Depths of boxes shall be such as to allow for easy wire pulling and proper installation of wiring devices.

E. Switches and receptacles shall be ganged in a common box only where the Drawings so indicate.

F. Device Boxes:

1. Recessed ceiling fixtures shall have 4 inch square sheet steel box with cover and suitable hanger bar. The box shall be secured to the ceiling suspension members not more than 1 foot from the fixture opening.
2. Surface mounted ceiling fixtures, for plaster or dry wall ceilings, shall have 4 inch sheet steel octagon box with round opening plaster ring and suitable hanger bar with 3/8 inch fixture stud.
3. Fixtures which weigh more than fifty pounds shall be supported independently of the outlet box.
4. Surface mounted wall bracket fixtures (concealed conduit) shall have 4 inch square sheet steel box with plaster ring as required for the fixture.
5. Ceiling outlets and wall bracket outlets (exposed conduit) in dry locations shall have 4 inch sheet steel octagon box with 3/8 inch fixture stud.
6. Outlet boxes on exposed conduit run in wet or damp locations shall have 4 inch cast box with threaded hubs and gasketed covers.
7. Wall switch and receptacle boxes installed in tiled or plastered walls shall have 4 inch square sheet steel boxes or multigang boxes with proper tile or plaster ring as required. Two gang may be provided by means of 4 inch square box with two gang tile or plaster ring.
8. Wall switch and receptacle boxes in dry locations in brick walls, unfinished walls, woodwork, etc. shall have single or multigang 4 inch square sheet steel boxes.

G. Plaster rings shall have threaded ears and shall be of suitable depth for the application.

H. The Contractor shall provide boxes with metal barriers, baffles or separators for grouping of dissimilar conductors or system separation.

3.05 PULL BOX INSTALLATION

A. Pull boxes shall be installed where shown and where necessary to insure that finished cable will not be damaged.
B. Pull boxes shall be supported independently from the conduit system.
C. The Contractor shall add pull boxes where needed even though not shown on the Drawings.

3.06 3.06 FIELD QUALITY CONTROL

A. The Contractor shall arrange with the Engineer for inspection and approval of embedded conduit and boxes prior to concrete placement.

PART 4: EXECUTION

4.01 GENERAL

A. Contractor shall construct concrete encasement for these conduits to form a duct line.
B. All duct lines shall be carefully installed to the dimensions, lines and grades shown the Drawings or established by the Engineer.
C. The grades shown on the Drawings are at the bottom and/or top of the concrete encasement. Duct lines shall be laid as true to line and grade as possible and shall be installed in a neat and workmanlike manner.
D. All conduit joints shall be staggered a minimum of 6 inches so that there are no unstaggered adjacent joints in either vertical or horizontal tows and tiers of conduit.
E. Each duct run shall be a structure consisting of several 3-1/2 inch conduits encased in concrete as indicated on the Drawings.
F. The conduit shall be installed in neat rows and tiers. The outer surfaces of the walls of the conduit shall be approximately two inches apart horizontally and vertically and all spaces between the ducts shall be filled with concrete.
G. The concrete encasement of the duct line shall be rectangular in cross section, forming an envelope around the conduits not less than three inches thick on all sides. If necessary to insure the required spacing between conduits, duct spacers shall be permitted.

4.02 CONCRETE REINFORCEMENT

A. The Contractor shall provide reinforcement as follows:

1. The reinforcement bars when delivered on the job shall be stored upon platforms, skids, or other supports, and protected from mechanical injury and from deterioration.
2. When placed in the work, they shall be free from dirt, detrimental scale, paint, oil or the foreign substances. A light coating of rust, provided that it is firmly adhered, will not be considered as detrimental.
3. Reinforcement bars shall be accurately set as shown on the Drawings and secured with approved supports so as to prevent movement during concrete placement.
4. Metal supports shall be made of cold-drawn wire, or other approved material, with component parts securely welded at all points of contact. They shall be sufficient in number and adequate in strength to carry the steel, which they support without tipping, sagging, or spreading. Metal supporting devices set in the concrete shall be galvanized for a distance of not less than one inch from all concrete face surfaces.
5. The spacing between reinforcement bars and the clearances between the base and adjoining surfaces and appurtences, together with the locations of splices and the manner of making splices, shall be as shown on the Drawings.
6. No concrete shall be deposited until the CTA Structual Engineer or third party independent Concrete Inspector has inspected the placing of the reinforcement bars and given permission to place concrete.

7. Protruding bars shall not be disturbed until the concrete has fully set.

B. The grades and elevations shown on the Drawings refer to the bottom of the concrete encasement.

4.03 EXCAVATION

A. The trenches for the duct line shall be excavated to the required depth, grade and width as shown on the Drawings.

B. Excess material and material not suitable for backfill shall be removed from the site and disposed of by the Contractor.

C. If, due to soil conditions, the walls of the trench will not support themselves vertically, forms or sheeting shall be permitted to insure proper concrete encasement.

D. In order to avoid pockets in the duct runs, the Contractor shall, prior to placing encasement, correct variations from the required grades and elevations of the trench bottom by removing high areas and by backfilling low areas, all as approved by the Engineer and at no additional cost to the Authority.

E. If forms or sheeting are used for the concrete encasement, all such forms or sheeting lying within five feet of the location of any existing substructure shall not be disturbed or removed, other than to cut off any projection above the top of the concrete encasement. The Contractor's particular attention is called to the necessity of his avoiding and preventing all unnecessary disturbances or displacement of the soil at and adjacent to the locations of the aforesaid substructures.

4.04 EXISTING UTILITIES

A. The locations of existing underground utilities and drains shown on the Drawing have been obtained from information supplied by the various utilities and government agencies. There is, however, no guarantee that the locations shown on the Drawings are necessarily accurate. Therefore, the Contractor shall check the elevations of these underground utilities prior to building the duct lines.

B. If these elevations do not conform to elevations shown on the Drawings, the Contractor shall revise the vertical elevations of the duct openings in the manholes and the vertical elevations in the duct lines, all under the direction of the Engineer. But in all cases, proper precaution shall be taken to pitch duct lines toward manholes where drainage facilities have been provided. In no case shall a low point or sump be created in any duct line between manholes.

4.05 INSTALLATION

A. At all entrances to manholes where conduit is used, each conduit shall be equipped with an approved end bell set flush with the inside face of the manhole as shown on the Drawings.

B. Backfill material shall be carefully placed to avoid damaging the duct line. It is the intent of these specifications to achieve an equal, but not greater, degree of compaction as adjacent undisturbed soil. This determination will be subject to the Engineer's judgment.

C. Backfilling of ductlines installed in Embankment shall be CA-6, crushed stone conforming to Section 31 20 10 EARTHWORK.

D. Top of duct, including concrete encasement, shall be installed at a minimum of 36 inches below finished grade.

E. Any pumping of excess water that may occur shall be considered an incidental part of the work item under this item.

4.06 CLEANING

A. Upon completion of a section of duct line and before acceptance by the Engineer, the Contractor shall be required to test duct line alignment by passing through each completed straight run of conduit an iron-clad mandrel 12 inches long, the diameter of

which is ¼ inch less than the nominal diameter of the conduit.

B. Through other than straight runs of conduit a similar mandrel 6 inches long shall be passed.

C. In addition, the inside surfaces of all conduits shall be cleaned by forcing an approved swab through each conduit.

D. If obstructions are encountered which cannot be removed by rodding, or if any conditions are discovered that in the opinion of the Engineer may result in damage to wires and cables pulled through the conduit, the conduit shall immediately be removed and replaced by the Contractor in a manner approved by the Engineer, without additional cost the Authority.

END OF SECTION

SECTION 34 42 14

CONCRETE FOUNDATIONS

PART 1: GENERAL

1.01 DESCRIPTION:

A. The work to be done under this Section consists of furnishing and installing precast concrete foundations, complete with galvanized anchor bolts, washers, and nuts, for locations as shown on the Contract Drawings. Where cast-in-place concrete foundations are required, the Contractor shall install the foundations as specified in Section 03300.

B. Precast concrete foundations shall be furnished and installed as specified herein for signals, route selectors, and heater cases.junction cases, instrument cases, signal instrument houses, and associated signal equipment. Foundations shall be required for signal equipment in ballasted areas throughout the project limits.

C. Crib walls for foundations, which require close wall timber cribbing (support walls) shall be furnished and installed as specified herein.

1.02 QUALITY ASSURANCE

A. Concrete for precast foundations shall be in accordance with specifications of the American Railway Engineering Association entitled "Specifications for Concrete Structures, Chapter 8".

B. A permanent record shall be kept by the precast fabricator of the date and conditions of casting of each unit.

C. Test Specimens

1. Representative test specimens of the concrete poured during the fabrication of the precast units shall be tested to determine the compressive strength of the concrete by an "Accredited Authoritative Structural Testing Laboratory" at no additional cost to the Contract.
2. Cement aggregates, mixing water and reinforcement used for precast units shall conform to the requirements of these Specifications.

D. Proper control of water-cement ratio, vibration frequency, protection and curing processes shall be monitored to provide the minimum strength of concrete as specified herein.

E. Close wall timber cribbing shall be in accordance with AREMA Chapter 8, Section 6.3.

1.03 SUBMITTALS

The Contractor shall submit the following to the Engineer for approval:

A. Drawings of the precast foundations he proposes to furnish and install. These drawings shall include, but not be limited to:

1. Physical Dimensions
2. Bolt Spacing
3. Reinforcing
4. Size and detail of galvanized bolts, nuts and washers.

B. Two copies of the fabricator's records showing the date and conditions relating to the manufacture of each precast unit, which shall include type of fabricator's building or enclosure, form material used, curing procedures, (steam or water), temperature ranges, air entrainment content, water-cement ratio, method of finishing the units, and all other

pertinent information.

C. Four certified copies of the tests conducted by the "Accredited Authoritative Testing Laboratory" for approval and acceptance of the precast units.

D. Drawings of proposed timber cribs, where cribbing is required, as indicated on the Contract Drawings.

1.04 DELIVERY, STORAGE AND HANDLING

A. Materials shall be protected from damage throughout delivery, storage and handling.

B. Damage to precast concrete foundations, resulting from improper handling by the shipper or the Contractor, shall require that all damaged materials be replaced with new materials at no additional cost to the Contract.

PART 2: PRODUCTS

2.01 MATERIALS

A. Precast Concrete Foundations

Precast concrete foundations shall be made of concrete of average compressive strength of 5000 psi and be in accordance with the applicable drawing section of Part 14 of the AREMA Signal Manual for the type of precast foundation required. Precast concrete foundations shall be steel reinforced. Reinforcing steel shall be placed not less than one inch from any outside surface.

B. Bolts, Nuts, and Hardware

1. Bolts, nuts, and washers shall be galvanized. Nuts and threads shall be in accordance with AREMA Recommendations for Bolts, Nuts and Threads, Signal Manual, Part 14.6.20.
2. Plain washers shall be in accordance with AREMA Recommendations for Plain and Spring Lock Washers, Signal Manual, Part 14.6.21. Steel shall be in accordance with AREMA Recommendations for Various Types of Steel, Signal Manual, Part 15.1.4, Section 1.

C. Finish and Curing of Precast Foundations

Proper control of the water-cement ratio, high frequency vibration and controlled curing shall be used. An air-entraining agent shall be used to increase the resistance to weathering. All outside surfaces shall present a smooth and finished appearance.

D. The Contractor shall furnish treated timbers and fastenings for cribbing, as hereinafter specified.

E. Crushed stone, gravel or other suitable coarse granular material, in accordance with Section 02200 of these Specifications, shall be used as backfill for cribbing.

PART 3: EXECUTION

3.01 INSTALLATION

A. Prior to placing precast foundations, the excavations and installations of crushed stone base shall be placed and compacted as specified in Section 02200.

B. When placing foundations, the Contractor shall exercise care to ensure that anchor bolts are not bent or threads damaged. All anchor bolt threads, washers and nuts shall be protected by applying friction tape, or other approved method satisfactory to the Engineer, until such time as the unit to be supported is installed.

C. If the surfaces of all foundations exposed to view do not present a uniformly clean surface of even texture and appearance, the surface shall be treated and rubbed to obtain a satisfactory finish, subject to approval by the Engineer.

D. After back filling foundations, the Contractor shall ensure that the foundation is plumb and level. Top of final grade shall be no less than eight inches below top of foundation. If a crib support wall is required, the top of final grade in relation to the top of foundation shall be approved by the Engineer.

E. Each tier of cribbing shall be drift bolted to the one upon which it rests with three-quarter inch galvanized drift bolts in sufficient length to extend through two tiers and not less than four inches into the third tier.

F. The filling of the interior of the crib shall follow closely the erection of the successive tiers and at no time shall the timbers be laid up higher than three feet above the backfilled portion.

G. The cribbing shall be installed so as to have a minimum perimeter walkway around the case, or signal, of six feet.

END OF SECTION

SECTION 34 42 15

SIGNAL LAYOUTS

PART 1: GENERAL

1.01 DESCRIPTION:

A. The work to be done under this Section consists of re-installation and replacement of equipment or furnishing and installing new if damaged by Contractor, light emitting diode (LED) color light type signal layouts. A symbol form shown on the Contract Drawings is used to indicate the approximate locations where signal layouts are required, and the aspects to be displayed.

B. Each signal layout shall be provided with LED arrays, tapped transformers, rectifiers, terminal boards, wiring, padlocks, and mounting hardware. Ladders shall be provided for all signal layouts where the centerline of the top aspect exceeds 6'6" above top of rail.

1. (Omitted).
2. Each signal layout to be installed on elevated track shall be provided with hoods, a number plate, a ladder, a signal mast and a split-base junction box.

C. (Omitted).

D. Each signal layout, with the exception of repeater signals shown on the Contract Drawings, shall be provided with a key-by switch to allow key-by of the train stop. The switch shall be mounted directly to the signal layout, and shall include a key-by support arm, pushbutton enclosure, and the pushbutton.

E. Side indication lights shall be provided for each signal head. Indication lights shall be separate LED arrays, same color as the signal unit LED, as shown on the Contract Drawings.

F. (Omitted). Signals shall be provided with a reflective sign for indication of the signal location. Sign backgrounds shall be as specified herein

G. Signals, train stop release pushbuttons, and route selectors shall be internally wired at the factory insofar as practicable and possible. Internal wiring shall be No. 16 AWG case wire, EPR insulated. Use of Tefzel wiring for internal wiring within the signal units will not be allowed.

H. Single unit color light signals shall be furnished and installed for the Worker Ahead warning signals at the approximate locations as shown on the Contract Drawings.

I. Three unit color light signals and a lit location indicator shall be furnished and installed for the station marker signals at the approximate locations as shown on the Contract Drawings.

J. Foundations and support systems for mounting the signal layouts in the ballasted areas, along with all attachment hardware, shall also be provided by the Contractor for locations shown on the Contract Drawings. Design of the support systems shall be by the Contractor, and shall be submitted for approval prior to fabrication.

K. Platforms and support systems for mounting the signal layouts on the elevated structure, along with all attachment hardware, shall also be provided by the Contractor for locations shown on the Contract Drawings. The other interlocking signals on elevated structures shall be installed through the walkways and secured to the elevated structure at the locations shown on the Contract Drawings. Design of the support systems shall be by the Contractor, and shall be submitted for approval prior to fabrication.

L. Route selector switches shall be provided for the interlocking signals at the locations shown on the Contract Drawings. Selector switches shall be single route (two levers) or two-route (three levers) type, as shown, with one lever provided for each route, and a cancel lever provided for each location. Separate foundations and support systems shall

be provided for route selectors located in ballasted areas. Selector switches for elevated structure signals shall be mast mounted on a separate mast from the signal unit. A separate platform or a combined sixteen feet platform shall be provided for the support of the selector switches on the elevated platforms as shown on the Contract Drawings.

M. Side protection boards and all hardware shall be furnished and installed in accordance with the Miscellaneous Components and Products Section of these Specifications at each location on the elevated track way where the equipment platform is located on the same side of the tracks as the contact rail.

1.02 QUALITY ASSURANCE:

A. Each signal unit shall be inspected prior to shipment. This inspection shall conform to the Contractor's Factory Inspection Procedure as approved by the Engineer. Signal units shall be in compliance with these Specifications prior to delivery to the Authority.

B. Signals shall meet the requirements of AREMA Signal Manual Part 7.1.1 (Recommended Design Criteria and Functional/Operating Guidelines for a Color-Light Signal, Doublet-Lens Type), and Part 11.3.3 (Recommended Design Criteria for Surge Withstand Capability of Electronic Signal Equipment for Signal Systems), where the requirements of the AREMA Recommendations do not conflict with any requirement specified within these Specifications.

C. Each signal layout shall be inspected after it has been installed in the field. This inspection shall conform to the Contractor's Installation and Inspection Procedure as approved by the Engineer. Installation will not be considered complete until all installation defects have been corrected to the satisfaction of the Engineer.

D. The final operating tests to determine the acceptability of each complete signal layout shall be performed as described in the Signal System Tests Section of these Specifications.

1.03 SUBMITTALS:

The Contractor shall submit the following to the Engineer for approval:

A. Drawings for each type of signal unit and each type of signal layout proposed, including all mounting and wiring details. The drawing shall also show the type of transformer and rectifier furnished and the manner of mounting. A key-numbered parts list and complete material ordering reference numbers shall be included for each type of signal layout.

B. A Factory Inspection Procedures prior to the manufacture or procurement of this equipment.

C. An Installation Inspection Procedure.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Signal layouts and their component parts shall be properly crated at the manufacturer's point of shipment. All damage incurred in transit and/or caused by mishandling or improper storage shall be the Contractor's responsibility to replace.

B. LED arrays shall be shipped separately from the signals in which they are to be used.

PART 2: PRODUCTS

2.01 MATERIALS:

A. Signal Units

1. Signals shall be AnsaldoSTS (US&S) Style Transit Signal Color Light "N", with LED arrays in lieu of incandescent bulbs.
2. Signal lenses shall be AREMA Signal Section Standard not less than five and one-half inches in diameter. The outer lens shall be glass, of a type as approved by the Engineer.

3. Outer lenses shall be clear. Chromaticity of the array and lens shall meet or exceed the chromaticity characteristics in AREMA Part 7.1.10. The lenses shall be secured to the signal head in a manner such that their removal shall not affect the adjustment of any other components. Lenses shall be provided with neoprene gaskets to provide a weatherproof and dust-proof seal between the lenses and signal housing.
4. Each configuration must be distinct and unmistakable when viewed from a height of seven feet above the top of rails at a minimum distance of 1000 feet on tangent track, and 600' on curved track.
5. Each signal unit for each signal shall have an independently lit sidelight of the same color as the LED array. Sidelights shall be mounted on the trackside of the signal.
6. Each signal unit shall be equipped with a nine-inch aluminum hood.

B. Housing

1. The housing for each signal shall be made of cast aluminum, and shall have individual compartments for each aspect. The compartments shall be separated from each other by partitions that will prevent the passage of light between the compartments and also provide a means to pass wiring between units.
2. Each signal housing shall have a cast aluminum hinged, removable door. The door shall also be provided with two ventilating openings, top and bottom, which will be covered with fine mesh stainless steel, copper or brass screen on the inside and protected with hoods to keep precipitation out. Doors shall have gaskets as specified in AREMA Signal Manual Part 15.2.10.
3. Doors shall have a provision for padlocks, as specified in the Miscellaneous Components and Products Section of these Specifications. The locking arrangement of the doors shall be so arranged that the door cannot be locked until fully closed. All doors for compartments shall have a stop that will prevent them from swinging where they may be struck by a passing train.
4. Each compartment shall be of proper size to provide ample space for LED arrays, terminals, and such adjusting devices as are necessary. Each compartment shall also contain spare space for future optional mounting of transformers and rectifiers within the compartment.

C. LED Arrays

1. LED arrays shall have a uniform lighting intensity over the full voltage range.
2. LED arrays shall be mounted within the compartment so that a proper relation of the lamp to the lens can be readily made and maintained. LED mounting within the array, and mounting of the array into the compartment, shall be so designed to prevent the LEDs and arrays from coming loose due to vibration or any similar cause.
3. LED arrays shall have a rated life of 100,000 hours minimum.
4. LED arrays shall be modular. Wiring of the LED array shall be such that failure of one module will not cause the complete LED array to become dark.

D. Signal Lighting Transformers

1. Transformers mounted separate from the signal head shall be rated for 60 Watts, unless otherwise directed by the Engineer, with a nominal 120-volt, 60 Hz primary winding as shown on the Contract Drawings. These transformers shall be equipped with taps to provide a voltage at the LED array of from six to 12 volts in one-volt steps.
2. Transformers shall be fused as indicated within the Contract Documents; these fuses shall be located in the relay houses or in the cable junction boxes. Transformers shall be as specified in the Signal Transformers Section of these Specifications.

E. Rectifiers

1. Signal lighting rectifiers shall be mounted adjacent to the signal lighting transformers.
2. Rectifiers shall be in accordance with Class C requirements of AREMA Signal Manual Part 11.5.1.

F. Binding posts, nuts and washers shall be in accordance with AREMA Signal Manual Part 14.1.11.

G. Painting

1. The inside of the lighting compartment shall be painted black.
2. Each signal layout shall have one primer coat of corrosion-preventive paint and one finish coat of paint at the point of assembly prior to shipment. The finish coat of paint for the exterior of the lamp compartment housing shall be dull black. The finish coat of paint for the signal mast, ladder, and base casting shall be gray enamel.
3. The exterior finish coat shall be in accordance with AREMA Signal Manual Part 1.5.10.

H. (Omitted). Signal Number Plates for Signals outside subway tunnel areas

I. Signal Mast and Base

1. Mast mounted signals with split-base junction boxes shall be provided for all locations as shown on the Contract Drawings.
2. The mast shall consist of a four-inch aluminum pipe post suitably equipped at the top to accommodate the signal unit. All signal masts shall be predrilled by the manufacturer at the factory.
3. The base section shall be a cast iron or aluminum, split base type junction box with AAR terminals. The terminals are to be made accessible by a cover or door, secured with bolts. Bolt heads shall be compatible with the standard Authority terminal wrench. The dimension of the bolthole centers for mounting the base shall be nine and one-half inches by nine and one-half inches. Bases shall be provided complete with all mounting hardware required to secure the signal mast and base to the elevated structure. All mounting hardware shall be galvanized steel.

J. Key-by Switches

K. Key-by switch layouts for manual key-by of the train stop shall be mounted to the signal layout for all mast-mounted signals. Pushbuttons shall be in accordance with Alstom (GRS) Catalog Plate No. L3021 or US&S Catalog Plate N91, or approved equal. Mounting of the key-by shall prevent the key-by from interfering with viewing the signal aspects, and shall not interfere with the dynamic envelope of the vehicle.

L. (Omitted). Wall Mounting Brackets

M. Ladders

Ladders shall be furnished and installed by the Contractor to provide access to all signals if the height of the signal is such that there is more than six feet - six inches between the center line of the uppermost lens and top-of-rail. Ladders shall be complete with cast iron ladder base and all required bolts, nuts, washers and associated mounting hardware.

1. Contractor shall furnish and install new, a ladder for Signal 12.

N. Foundations

1. Concrete foundations shall be provided for signals installed in ballasted track locations. The foundation shall be cast in place concrete in accordance with the Cast-In-Place Concrete Section of these Specifications.
2. Foundations shall be steel reinforced. Reinforcing steel shall be placed not less than one inch from any outside surface.
3. Pre-cast concrete foundations may be used, subject to approval by the Engineer.
4. Proper control of the water-cement ratio, high frequency vibration and controlled curing shall be used. An air-entraining agent shall be used to increase the resistance to weathering. All outside surfaces shall present a smooth and finished appearance.
5. Bolts, nuts and washers shall be galvanized. Nuts and threads shall be in accordance with AREMA Recommendations for Bolts, Nuts and Threads, Signal Manual, Part 14.6.20.
6. Plain washers shall be in accordance with AREMA Recommendations for Plain and

Spring Lock Washers, Signal Manual, Part 14.6.21. Steel shall be in accordance with AREMA Recommendations for Various Types of Steel, Signal Manual, Part 15.1.4, Section 1.

O. Route Selector Switches

1. Route selector switch layouts for manual selection and cancellation of routes within interlockings shall be mast mounted. Single unit switches and double unit switches shall be provided at the locations shown on the Contract Drawings.
2. Selector switches shall be in accordance with Alstom (GRS) Catalog Plate No. L3021 or US&S Catalog Plate N91, or approved equal. Design of the route selector shall prevent the switch and mounting hardware from interfering with viewing the signal aspects.
3. Each switch shall include an engraved plastic label indicating the switch function. The labels shall be mounted on the switch to permit easy viewing by the motorman in the cab.
4. Mast assemblies for elevated structure route selectors shall include a signal mast and base as specified herein. Where double unit and three-unit selector switches are designated, all selector switches shall be provided on a single mast.
5. Instruction signs for the route selectors shall be provided at each location.
6. Route selectors shall be positioned in a manner that does not obstruct the view of any signal aspects. Route selectors shall also be positioned such that they may be readily operated from the train motor cab station.

PART 3: EXECUTION

3.01 SIGNAL LAYOUT INSTALLATION:

A. All signal layouts shall be installed at locations as shown on the Contract Drawings and in accordance with approved plans.
B. Mast mounted signal layouts within the platform area shall be anchored to the platform with epoxy type anchors.
C. Concrete foundations for mast-mounted signals shall be provided in accordance with the approved plans. When placing foundations, the Contractor shall exercise care to ensure that anchor bolts are not bent or threads damaged. Anchor bolts requiring leveling nuts shall be of sufficient length. Foundations shall be installed level and plumb.
D. Mast-mounted signals for installation on the structure shall be installed on steel platforms as shown on the Contract Drawings, and on between track supports as shown on the Contract Drawings. The Contractor shall modify the walkways to permit installation of the signal layouts.
E. (Omitted). Wall-mounted signals shall be attached.....
F. Each signal layout shall be grounded by means of a No. 6 AWG ground wire. Signal layouts on the elevated structures shall be grounded to the structure in accordance with Section 16876. Where no tunnel structure or other ground exists, the ground wire shall be attached to the running rail or impedance bond neutral with the approval of the Engineer.
G. Signals shall be properly installed, aligned, and focused, both horizontally and vertically, to obtain the sighting distances as specified herein required by this Specification.
H. Each configuration must be distinct and unmistakable when viewed from a height of 7 feet above the top of rails at a minimum distance of 600 feet. The Contractor shall furnish all labor, equipment, and material, including shims or special tools, required to properly focus and align the signals both horizontally and vertically in order to obtain the proper sighting distance. Signals shall be positioned to avoid obstructions that obscure the view of all aspects.
I. LED voltage shall be set at nominal voltage plus or minus 10% at the signal unit.
J. After installation and prior to Contract completion and acceptance, the exterior of each signal layout shall have a final coat of paint of the same quality and texture as the

manufacturer's finish coat.

3.02 FIELD TESTS:

Tests for proper operation and setting of operating voltages shall be made in accordance with tests for signal layouts as described within the Signal System Tests Section of these Specifications.

END OF SECTION

SECTION 34 42 31

ROADWAY GRADE CROSSING WARNING SYSTEMS

PART 1: GENERAL

1.01 DESCRIPTION:

A. The work to be done under this Section consists of furnishing and installing new automatic roadway grade crossing warning devices and supporting circuitry, logic, and equipment. The logic and apparatus provided shall be coordinated with CTA Train Control Systems such that roadway grade crossing warning devices are activated prior to the Rapid Transit Vehicles entering the roadway at the authorized speed, except where otherwise approved by the Authority.

B. All roadway grade crossing warning devices, circuits, operational and monitoring logic, and installation shall conform to the recommendations of the AAR Signal Manual, Section 3, except as specified herein.

C. All roadway grade crossing warning device layouts shall follow the arrangement plans depicted on the Contract Drawings, and shall conform to the requirements of all local municipalities; the recommendations of AAR Signal Manual, Section 3; and the Manual of Uniform Traffic Control Devices (MUTCD).

D. All case and house layouts and wiring, including internal wire nomenclature, shall be standardized based on the crossing having maximum number of crossing gates, pedestrian gates, flashers, gate cancellation route selector mechanisms, and swing gate mechanisms. Wire nomenclature for line circuits entering the house shall be site specific and retagging of existing circuits that interface the new house shall be provided. All equipment housings and layouts shall be sized for the location with the maximum number of devices; the equipment provided will merely have additional excess capacity at locations with less than the maximum equipment. It is the intent of the Authority to obtain control housings that are substantially identical in construction, nature and equipment provided internally.

E. All crossing equipment enclosures shall be equipped with a standard three-wire traffic preemption interface.

F. Included in the work under this section shall be the furnishing of one additional complete crossing housing and one complete swing gate case layout with all associated internal equipment, to be delivered to the CTA Signal Maintenance Department for training Purposes. Included with this unit shall be furnishing one each of the following: pedestrian gate and flasher assembly, station flasher assembly, manual gate controller, gate cancellation selector, illuminated "left turn assembly", swing gate mechanism. This assembly shall also be used for testing any application modifications to a crossing VMIS, if provided under this contract.

G. All barnyard (swing) gate case layouts and wiring, including internal wire nomenclature, shall be standardized based on the crossing having four swing gate mechanisms. Wire nomenclature for line circuits entering the control housing shall be site specific and retagging of existing circuits that interface the new case shall be provided. All equipment housings and layouts shall be sized for the location with the maximum number of devices; the equipment provided will merely have additional excess capacity at locations with less than the maximum equipment. It is the intent of the Authority to obtain control housings that are substantially identical in construction, nature and equipment provided internally. Swing gate controls may be provided in the crossing control house, subject to approval by the Engineer.

1.02 QUALITY ASSURANCE:

A. New gate mechanisms, and relays shall be tested at the point of manufacture as specified in Section 16891.

B. The Contractor shall test and inspect the equipment prior to shipment in accordance with Authority approved Factory Test and Inspection Procedures.

C. The Contractor shall perform operational testing of the equipment in accordance with the requirements specified in Section 16891.

1.03 SUBMITTALS:

The Contractor shall submit the following to the Authority for approval:

A. Equipment specifications, manuals, and drawings for all new equipment and supporting apparatus supplied under this Section.

B. Manuals describing the installation, maintenance, and operation of each roadway grade crossing warning layout furnished under this Contract.

C. Alignment patterns for all warning lamps and loadings for cantilever units.

D. Schematic drawings of operational circuitry and logic for all grade crossing devices, individually and as an operational whole. The schematic drawings shall conform to Section 16804 Drawings and Tracings requirements.

E. Shop drawings for each of the signs being installed at each roadway grade crossing location.

F. Shop drawings for the assembly of roadway grade crossing warning layouts, including detailed bills of material.

G. Detailed installation drawings for each site layout.

H. Final circuit and detail wiring plans showing the control of the specified equipment for each site location.

I. Factory Test and Inspection Procedures.

J. Certified factory test reports of the completed factory tests.

K. Installation Test Procedures for testing of the final installed system(s).

L. Detail drawing of crossing gate controller.

M. Detail drawing of the crossing gate activation selector.

N. Load "Amp-hour" calculations for the batteries.

O. Incoming AC load requirements for housings with all equipment operating.

P. Station pedestrian warning flasher assembly.

1.04 DELIVERY, STORAGE, AND HANDLING:

A. Prior to shipment, all parts of the automatic gate crossing mechanism that are not painted or made of noncorroding material shall be coated with an Authority approved grease to prevent corrosion. All unused threaded outlets shall be plugged or capped.

B. Lamp bulbs shall be packaged separately from flashing light units in which they are to be used.

C. Relays shall be delivered, stored, and handled as described in Section 16858.

PART 2: PRODUCTS

2.01 CROSSING GATE UNITS:

A. Crossing gate units, of the railroad type, shall be provided as recommended by AAR Signal Manual. All gate mechanisms shall be of the driven down motor type. The following features shall be included:

1. Hold clear relay shall be vital.
2. The mechanism (gate snubbing circuits) will smoothly lower the gate under a loss of power.
3. Mechanism circuitry will resist the falling counterweights when a gate arm is knocked off, both when power is applied to the unit and during a power loss.
4. Mechanism circuitry will resist the falling counterweights when the gate arm is knocked off during a power operation.
5. The motor control will be retained when a snubbing resistor or contact has failed open.
6. Each mechanism will include a local control switch which will allow the maintainer to drive the counterweights up and the gate arm down, to allow the replacement of a broken or removed gate arm. Each mechanism will include a removable brace which can be used to support the counterweights while the gate arm is being replaced.
7. Gate mechanisms shall be a pole mounted type, with a junction box base.

B. Modular gate arms provided shall be of light weight fiberglass type with breakaway connector. In no case shall the gate arm be more than one foot from the center of the road when in the full horizontal position. The maximum length gate arm shall be 38 feet. One spare gate arm of each length required shall be provided prior to any grade crossing being placed in service. All gate arms shall be furnished complete, ready to use, wired with lamps installed, complete with pull-apart wiring connectors in place. Three gate lamps shall be mounted on each crossing gate arm as recommended by the AAR signal manual and one gate lamp mounted on each pedestrian gate arm. Gate lamp wiring shall be plug coupled to the arm adapter.

C. Wind supports shall be provided for all gate arms longer than ten (10) feet in length, and shall be mounted in such a manner as to prevent shear pin breakage due to wind loads when the gate is in the fully raised position.

D. Gate arm lengths shall be determined by the Contractor in conformance with the recommendations of the AAR Signal Manual, and requirements of the MUTCD.

E. A cast metal electronic bell shall be provided at the top of a mast supporting a crossing gate arm assembly. The bell(s) shall operate as per existing circuit plans, and bell cut-out shall be provided at all locations. One bell shall be installed per roadway grade crossing location, unless otherwise noted on the Contract Drawings.

F. Crossing gate layouts furnished shall include all equipment necessary to function as required, including mast mounted signs, counterweights, circuit controllers, sealed housings, hold-clear relays as required, wiring terminal blocks, lamps and LED's.

G. A minimum of five shear pins per gate installed shall be provided to the CTA as spare pieces prior to the gate being placed in service.

2.02 HIGHWAY FLASHER UNITS:

A. Flasher units shall be 12" inch diameter units and 24" inch background.

B. Cantilever based flasher units shall be provided as shown on the Contract Drawings, and shall be equipped with roundels, of deflection and size as recommended by AAR Signal Manual, and as required for alignment patterns and proper motorist visibility coverage.

C. Each flasher lamp unit, except the units installed on moving gate arms, or on pedestrian railing, shall be equipped with 12" inch diameter lenses, 24" inch background, and hood to limit "washout" from the sunlight at all times of day, during all seasons. Flasher lamps shall be LED type. The power feeds for the LED's shall be grouped such that no more than three LED's are on any one feed. Design shall minimize the number of arrays which deenergize in the event of a single component failure or trace failure. In the event that the Contractor determines that the washout cannot be sufficiently limited to provide safe operation, the Contractor shall be responsible for recommending additional flasher units in

such a manner as to provide adequate visibility for safety of highway vehicles.

D. All flasher lamps and bells shall be operated and powered from the new roadway grade crossing house, or case.

2.03 STATION FLASHER UNITS:

A. Flasher units shall be 10" inch diameter units with no background

B. Station flasher units shall be provided as shown on the Contract Drawings, and shall be equipped with roundels, of deflection as required for proper pedestrian visibility coverage.

C. Each station flasher lamp unit, mounted on pedestrian railings, mast or ceiling as indicated on the contract drawings, shall be equipped with 10" inch diameter lenses. Flasher lamps shall be LED type. Contractor shall be responsible for recommending additional flasher units in such a manner as to provide adequate visibility for safety of pedestrians.

D. All flasher lamps shall be operated and powered from the roadway grade crossing house, or case.

2.04 GRADE CROSSING WARNING OPERATIONAL LOGIC CONTROLLER UNIT:

A. General:

Vital relay logic, vital microprocessors, vital solid state crossing controllers or a combination thereof shall be used for providing operation of crossing apparatus, including gate motor operation, flasher units, interfacing with existing CTA equipment and interfacing with new equipment provided under this contract. Vital relays, crossing controllers, and vital microprocessors shall be fed from a separate battery and charger assembly, independent of the flasher/gate charger and battery assembly. When a vital microprocessor is used, it may be provided in a "non redundant", "non relay backed up" configuration, subject to approval by the Engineer. When a vital microprocessor is used, it must have a universal application program that functions at all crossing locations.

B. Functional Design Requirements:

1. Circuitry or logic shall be designed such that the warning device operation is activated at a nominal 30 seconds prior to a CTA train arriving at the edge of the sidewalk furthest from the road for the purpose of determining minimum warning time. Where clearance distance exceeds 35 feet, one second shall be added to the 30 second nominal time for each additional 10 feet or fraction thereof over 35 feet. The longest applicable clearance distance shall be used for such adjustment. Circuitry shall ensure that devices are activated, and gate arms raise when the CTA train consist has completed its movement across the roadway. Additional time shall be required where barnyard (swing) gates are in operation. See Section 2.13, Barnyard (Swing) Gate Mechanism for requirements.

2. Contractor furnished activation circuitry for devices shall be coordinated with existing CTA signal system design to provide the most efficient system until the new system is placed in service. Island track repeater circuits/bi-directional circuits shall be provided but will be temporarily deactivated.

3. Each roadway grade crossing system shall be designed to provide for proper operation at maximum CTA authorized train movement speed in both directions.

4. Crossing gate system device activation shall begin with flashing lights, the bell shall also begin at the same time. The flasher rate shall meet the recommendations of the AAR Signal Manual. Not less than 3 seconds later, the gate arm shall begin to descend. Gate arms shall remain horizontal while a train activates the approach circuit or occupies the island circuit.

5. The Contractor will provide an ac feed for each grade crossing in such a manner that the loss of one commercial power source will automatically transfer to the secondary commercial power source. In general the ac feed shall be connected to the existing

ac feed source furnished by the CTA. The AC feed shall provide power for the constant battery chargers. Crossing controls and the electronic recorder shall operate from one charger and battery set. Gates and flashers shall operate off of a separate charger and battery set.

6. The "NO LEFT TURN", AND "NO RIGHT TURN" units where required shall be operated similar to the grade crossing flasher units. These units shall be illuminated international symbols for "NO LEFT TURN" AND FOR "NO RIGHT TURN". The symbols shall be of LED/Fiber-optic type, that conforms to IDOT requirements. The units shall be mounted on an aluminum mast.
7. Grade crossing power shall be interfaced with the cab signals in such a way that loss of power at the grade crossing to operate lamps or other devices, shall cause the cab signal in the track circuits through the grade crossing to go to their most restrictive aspect.
8. Each equipment housing or case shall be equipped with a standard three-wire traffic preemption interface.
9. Each crossing shall be equipped with controls for a gate activation route selector that may de-activate the crossing start for a given direction. A wayside selector shall be provided in station platform areas to allow train operators to cancel the normal crossing system warning request caused by the presence of the train. This selector shall have a "Gate Cancellation" button that will over ride the activation for that track, without affecting activations for the other track. The selector shall have a "Gate Activation" button that will restore the activation for that track. Circuitry and logic shall be provided to support this function. The cancellation shall be de-activated by occupancy of the island track beyond the platform. The logic shall not over-ride the warning request caused by occupancy of the island track on the same track.
10. Controllers and flasher devices shall be sized to provide sufficient capacity for continuous load consisting of all of the connected devices, plus an additional 20% load.
11. The flasher type shall be solid state, not relay based.
12. Equipment configuration subject to approval by the Engineer.

2.05 FOUNDATIONS

Precast, modular foundations, poured in place foundations or caissons shall be provided by the Contractor for mounting masts and cantilever assemblies. Masts for crossing gate unit mounting shall be separate from cantilever masts.

2.06 EQUIPMENT MASTS AND CANTILEVERS:

A. Grade crossing equipment masts for mounting gate assemblies and warning lamp assemblies shall be aluminum. The masts shall be supported in a base, complete with integral junction box, bolted to the foundation. The base shall be supplied with wiring termination strips using AAR terminals of sufficient quantity to terminate all cable and wiring to and from the mast location.

B. All equipment masts and cantilever units shall be provided with a long lasting weather resistant finish. This may be accomplished by anodizing or by painting, with only one method used for all equipment masts and cantilever units furnished.

2.07 SIGNS:

A. The following reflective signs shall be furnished as depicted on Contract Drawings, and per AAR Signal Manual, Section 3:
   1. "Number of Tracks" sign
   2. "RAILROAD CROSSING" crossbuck type sign

3. "DO NOT STOP ON TRACKS" sign
4. "$500.00 fine for crossing tracks when activated" sign
5. Street Name Signs

B. All signs shall be aluminum construction, equipped with high reflective Scotchlight material attached permanently to the sign face to be highly visible in day or night.

2.08 MONITORING DEVICES:

A. A monitoring device, similar to the "Safetran A80250 or Vigilant" ™ or approved equal, shall be furnished in the relay house at each roadway grade crossing and shall meet the recommendations of AAR Signal Manual Part 3.1.29. The unit shall be installed in the equipment housing together with the crossing operational circuitry, all equipment necessary for a spread spectrum radio connection, and conform to the following:

1. It shall monitor all events affecting operation of the warning devices, and date and time of day for each event. A minimum of 160,000 events shall be stored in cyclic manner, whereby the oldest data is overwritten.
2. Data monitored and stored shall be accessible in report form and shall include:
   a. date and time of day
   b. status of each track circuit affecting crossing operation
   c. status of each ac and dc power bus
   d. flasher lamp operation
   e. grounds
   f. position of crossing gate controller switch
   g. 24 hour "on, off" cycle
   h. gate status
   i. "ME' signal indications
   j. AC power failure
   k. Charger output failure
   l. Charger off
   m. Low recharge current
   n. Battery voltage High or Low
   o. Battery actual amp-hour capacity
   p. Battery voltage
3. The Contractor shall furnish the event recorders complete with an interface for a laptop and modem for remote data retrieval. The installation of a phone line for this modem is not of this Contract.
4. The Contractor shall furnish a portable printer and connecting cables for providing a hard copy of the existing memory contents. The printer shall be capable of interfacing with the event recorder. The printer shall produce a mnemonic printout. It shall be possible to leave the printer connected to the event recorder and have the events printed out in real time as well as stored in memory. When printing, the event recorder shall continue to store new events as they occur.
5. The Contractor shall furnish all equipment necessary for making changes to the mnemonics associated with each data point.
6. The event recorder shall be completely housed in a dust-proof enclosure.
7. The Contractor shall notify the Engineer prior to shipment of the portable printer, to ascertain the designated shipping point. The portable printer shall be provided with suitable casings to protect it from damage during shipping.
8. The Contractor shall furnish a barrier strip terminal block of adequate terminals and 25

percent spare terminals to interface with the circuits.

9. The Contractor shall supply three alarm reporting management base stations, complete with radio link and all associated hardware, software and surge suppression. This equipment will be installed at the maintainer's office on each route, and at the maintenance headquarters at 3920 W. Maypole. The Contractor shall also provide two portable alarm management stations, with all necessary connecting cables, to retrieve data directly from a unit in the event of a radio failure. These shall conform to the requirements of Section 16880, Operation Recorders. The system shall be provided as a fully integrated, automated package, capable of contacting a minimum of 5 phone numbers in the event of an alarm. The system shall include the ability to customize alarm responses and selections. The system shall be subject to approval by the Engineer.
10. Software shall be supplied for the display of the event recorder data and shall conform to the requirements of Section 16880, Operation Recorders.

2.09 CROSSING INDICATION SIGNALS:

A. Wayside Motorman (ME) Light type signals shall be provided trackside approaching each roadway grade crossing in the normal and reverse directions. The ME light shall flash a green aspect when the crossing has been activated and the gates are descending. The ME light shall continue to flash until all of the conditions are met for a steady green aspect. The ME light shall display steady green aspect when all of the following take place: the crossing has been activated, the gates are in the horizontal position, the flashers are working and the barnyard (swing) gates (circuits to be provided and by passed) are in the full open position. The ME lights associated with a track shall only check the barnyard gates on that track. The barnyard gate indication shall be directionally lit for the approach of a train on the track for which it is intended to convey an indication.

B. Motorman Signal Heads:

1. Shall conform to AAR Signal Manual Part 7.1.1, except as otherwise specified herein.
2. Each signal head shall include a cast aluminum housing, a hinged back door, one 6-3/8-inch diameter lens. Signals shall be adaptable for mounting on 4- or 5-inch poles.
3. All signal heads shall be completely equipped with LED lamps, lamp receptacles, double lenses, transformers, terminals and terminal boards. The signals shall be internally wired at the factory.
4. Each signal head shall be ventilated by openings on the door covered by a fine mesh brass or copper screen and hooded to prevent the entrance of rain. The locking arrangement of the doors shall be such that the door cannot be locked until fully closed. All doors shall have a stop that shall prevent them from swinging into the path of trains.
5. Each signal head shall contain a lamp compartment. Compartment shall provide ample space for lamps, lamp receptacles, and adjusting devices as required by the approved design.
6. Signal lenses shall be secured to the signal head so that their removal will not affect the adjustment of the lamp receptacles.
7. Signals shall give a distinct and unmistakable aspect a visible up to 2,000 feet and distance of 600 feet when viewed under the most adverse operating conditions from a position seven feet above the top of rail.
8. Nine-inch minimum hoods shall shield lenses of all high signals from interference by sunlight.
9. A black background shall be attached to the face of the signal to improve visibility.
10. Lamps shall be LED type. Power for the signal lamps shall be taken from individual adjustable type transformers for each lamp compartment. Units shall have a rated

life of at least 10,000 hours. The voltage across the lamp filament shall be adjustable type, transformer as specified below.

11. Receptacles shall prevent the lamps from coming loose due to vibration or other causes.

12. Signal head transformers shall have a rated primary voltage of 120 volts, rated secondary voltages from 6 to 12 volts, with taps in one volt increments, and a minimum power rating of 60 watts, all at 60 Hz.

C. Ladder and base or ballast extension shall be provided for units which are 6 feet 6 inches from the ground level or taller when installed.

D. Mast and Base: Where required, shall be four-inch diameter aluminum pole equipped to accommodate signal units with a split type junction box base mounted on concrete foundations with anchor bolts, ladder in ballast.

E. Painting: All outside surfaces of new, crossing signal layouts shall be painted in accordance with AAR Signal Manual, Part 2.4.30, with aluminum paint, Rustoleum Corporation #470, except for signal head faces which shall be Rustoleum Corporation black enamel or equal approved by the Engineer. Aluminum metal shall not be painted with aluminum color paint.

F. Street crossing nameplates, shall be installed on the masts below the ME lights for each track. Nameplates are to be .06" thick aluminum plates, 6" high by 24" wide. Lettering shall be 3.5" high, reflective white, on a reflective green background, with a 3/8" reflective white border. Signs shall include the full street name. "Proceed on Steady Green" signs shall also be provided on stakes in approach to the crossing, in each direction and for each track.

2.10 CROSSING GATE CONTROLLER:

A. The Contractor shall supply one Crossing Gate Controller at each crossing manually controlling the crossing and pedestrian gates for emergency or maintenance purposes.

B. The Crossing Gate Controller shall:

1. Be a weatherproof enclosed box door with an interlocked door, hinged on the right side, that can be closed only when switch is in the automatic position and the enclosure locked with the "Adlake" type lock with standard CTA keying.

2. Have a three position switch:

a. "RAISE", center position, will raise crossing and pedestrian gates, including when the island track is occupied.

b. "LOWER", right position, will activate crossing and pedestrian warning devices.

c. "AUTO", left position, crossing will be controlled under normal conditions, and unit door may be closed and locked in this position only.

3. All three positions of switch are to be indicated to the monitoring device.

2.11 7 DAY 24 HOUR TIMER:

A. One 7 day 24 hour timer shall be furnished for each crossing case or house supplied by the Contractor for the purpose of bell cutout.

B. The Contractor shall submit the proposed timer for approval by the Engineer.

C. The timer shall have a minimum of two programmable "on", "off" time periods for each day.

D. The timer shall be provided with locking device to prevent tampering.

E. Existing crossing bell cutout time periods shall be maintained in the new design and installation.

2.12 CROSSING GATE CANCELLATION SELECTOR:

A. Provide a mast mounted gate activation selector unit, similar in construction to route

selectors provided under this contract. The wayside selector shall be provided in station platform areas to allow train operators to cancel the normal crossing system warning request caused by the presence of the train. This selector shall have a "Gate Cancellation" normally open contact that will over ride the activation for that track, without affecting activations for the other track. The selector shall have a normally open "Gate Activation" contact that will restore the activation for that track. Selector buttons shall be trip release type mechanisms, or approved equal.

B. The Crossing Gate Cancellation Selector shall:

1. Mast mounted on a foundation, located at the 8-car mark in the station area.
2. Have two selector units:
   a. "Gate Cancellation", left position, will cancel that track's activation and raise crossing and pedestrian gates, except when the island track is occupied.
   b. Gate Activation", right position, will re-activate crossing and pedestrian warning devices.
3. The pushbuttons and associated circuits are to be indicated to the monitoring device.

2.13 BARNYARD (SWING) GATE MECHANISMS:

The barnyard (swing) gate mechanisms and concrete mounting pads at both Maple Avenue and Isabella Street shall be replaced with new barnyard (swing) gate mechanisms including new concrete mounting pads specific to the new mechanisms.

A. The Contractor shall submit, for approval by the Engineer, the proposed replacement unit, including all hardware, mountings, gate modifications, electrical requirements, concrete mounting pad, and bill of materials.

B. Functional Design Requirements:

1. The barnyard (swing) gate mechanisms shall be electrically operated and controlled by the crossing control circuitry. Swing gate mechanisms shall operate at 110 to 120 Vac single phase, or via a Contractor supplied rectifier. Control circuitry shall include a 0-5 second (adjustable at 1 second increments), field adjustable time delay for opening the gates. Control circuitry shall also include a 0-5 second (adjustable at 1 second increments), field adjustable time delay for closing the gates.
2. The barnyard gates shall be opened prior to, or in conjunction with the activation of the crossing gates.
3. The automatic controls for each pair of barnyard (swing) gate mechanisms on a track shall operate independently from those on the other track.
4. Manual control of crossing shall open all four gates.
5. Shall be rated for minimum 180 openings and closings per day and subject to temperatures ranging from minus 40 degrees to degrees to one hundred and twenty degrees Fahrenheit.
6. The barnyard gates shall be in the fully open position a minimum of 18 seconds before the train is fouling of opening gates. The mechanisms shall operate with a nominal opening time of 10 seconds, the opening time shall not exceed 12 seconds. Clearance logic shall be incorporated into the signal control circuitry.
7. There shall be a manual release that removes power to allow the gates to be latched open manually for emergency or maintenance purposes. This manual release device shall be padlocked for CTA use only.
8. A breakaway connection, with replaceable shear pin, of the barnyard (swing) gate operating mechanism to the gate shall be provided to prevent damage to the mechanism, should the gate be hit or gate operation be impaired.
9. The barnyard gate indications shall be independent of activated crossing flashers.
10. A red indication light, similar to a crossing gate tip light, shall be mounted on each

swing gate. The type of bulb used shall be as specified in Section 2.08

11. Three indications shall be furnished:
    a. An indication shall indicate to the crossing control circuit that all barnyard (swing) gates are in the fully closed position.
    b. An indication shall indicate that all barnyard (swing) gates are in the fully open position and as part of the control for the activation of the motorman lights that crossing gates are in the full horizontal position and that the barnyard (swing) gates are in the full open position.
    c. An indication to the monitoring device when the barnyard (swing) gates are in the fully open, in transit and the fully closed positions.
12. Swing gate mechanisms shall be equipped with a local power disconnect switch located on or near the mechanism. The switch shall be located inside a weatherproof box with a hasp, capable of being locked with a standard CTA switch lock. Mechanisms shall have an external manual release that allows the mechanism to be disconnected from the gate allowing the gate to be manually opened. A latch shall be provided to manually secure each gate in the open position.

C. The Contractor shall remove the existing concrete mounting pads that support the mechanisms. New concrete mounting pads or foundations shall be provided for the mechanisms.

D. The Contractor shall remove the existing swing gates and poles, and install new swing gates and poles in the same locations. Construction shall match the design of those that exist at each location. The Contractor shall provide all hardware, foundations, and fencing necessary to complete the installation. All fencing and gates shall be installed plumb and true. Construction shall conform to the requirements of Fences and Gates, Section 02800.

PART 3: EXECUTION

3.01 INSTALLATION:

Equipment installation shall conform to all applicable Specification Sections and the Contract Drawings. In the absence of any descriptive Section or Contract Drawing, the Contractor shall conform to the recommendations of the AAR Signal Manual.

A. The Contractor shall install warning lamps as shown on the Contract Drawings to provide adequate visibility to approaching highway traffic in accordance with State of Illinois and MUTCD recommendations.

B. Warning devices shall be installed at locations at such a height as to provide the most visible warning to highway traffic advancing from any expected direction. The Contractor shall submit a layout of proposed alignment depicting alignment of all warning lamp units and their visibility to highway traffic.

C. Motorman light signal mounting location is as shown on the Contract Drawings.

D. The Contractor shall install the ME unit at a height such that it can be seen without obstruction. Standard height to the top of the unit is approximately 6"-0" above grade. Include a ladder and foundation or ballast extension for any unit which is taller than 6'-6" when installed. The contractor shall install the unit at a height such that it is above and clear of any obstruction. Installation subject to approval by the Engineer.

3.02 TESTING:

Operational testing shall be performed as described in Section 16891 to ensure that all apparatus is properly aligned, adjusted and functioning as intended prior to being placed in service.

END OF SECTION

SECTION 34 42 38

MISCELLANEOUS COMPONENTS AND PRODUCTS

PART 1: GENERAL

1.01 SUMMARY

A. The work to be done under this Section consists of the furnishing miscellaneous components and products to be used on this Contract.

1.02 QUALITY ASSURANCE

A. All miscellaneous components and products used on this Contract shall be:

1. New and free of manufacturing defects;
2. Clearly and permanently labeled with value or type identification.

B. All electrical components shall be rated to operate at power, voltage, current, and temperature levels exceeding by 20 percent those which the components will be subject to in service, unless otherwise specified herein.

1.03 SUBMITTALS

A. The Contractor shall submit the following to the Engineer for approval:

1. Performance data or a sample of each type of component or product proposed as an equivalent to those herein specified shall be submitted.
2. The Contractor shall obtain the Engineer's written approval obtained for any such equivalent type component or product he proposes to use.
3. The Contractor shall prepare and submit a general maintenance manual to permit future direct ordering of miscellaneous components by the Authority. The manual shall include catalog cuts, data sheets, and the manufacturer's part numbers.

PART 2: PRODUCTS

2.01 PRINTED CIRCUIT CARDS

A. Printed circuit (PC) cards shall be of glass epoxy construction. Card material shall meet the requirements of NEMA Type FR-4. Cards shall have sufficient thickness to permit easy insertion and removal, and shall be physically keyed to protect against incorrect interchange. Circuits shall be formed by etching. Conductor material shall be copper and shall be protected from exposure to air.

B. PC cards containing components that may be damaged in the event a plug connector or plug-in unit is removed while the equipment is energized shall be clearly marked or labeled with a warning note and means shall be provided to remove power to the PC cards.

C. Components mounted on the PC card, weighing more than one-half ounce or with a displacement of more than one-half cubic inch, shall have a mechanical supporting attachment to the card which is separate from all electrical connections.

D. Stacking or piggy-backing of printed circuit card sections in order to accomplish changes or modifications to wiring or components on printed circuit cards shall not be allowed.

2.02 PRINTED CIRCUIT CARD CONNECTORS

A. Connectors shall have gold plating a minimum thickness of 0.000050 inch.

2.03 CIRCUIT BREAKERS, FUSES AND FUSE CLIPS

A. Fuses and circuit breakers shall be of suitable capacities to protect the various pieces of signal apparatus from the effects of short circuits or overloads. All circuit breakers and fuses required for the equipment and systems shall be in accordance with these Specifications.

B. The Contractor shall provide fuses for all equipment as required to provide circuit protection as defined within the Contract Documents, and in accordance with the National Electrical Code.

C. Fuses shall be controlled time delay, current limiting, non-indicating and non-renewable.

1. Low Voltage Fuses - For 110 volt circuits or less that are not connected to the rails or in snowmelter enclosures, fuses shall be as manufactured by Cefco Co., or approved equal, with minimum current interrupting capability of 60,000 amps at 250 volts ac.
2. High Voltage Fuses - For snowmelter circuits - minimum voltage rating 1000v dc, as manufactured by Cefco, or approved equal. For ac track circuits, , and other connections to the rails - minimum voltage rating 600v, Type CRS-R "CEFCO" as manufactured by Cefco, or approved equal. Minimum current interrupting capability shall be 60,000 amps at 1000 volts dc.
3. AC fuse blocks shall be Phenolic base, 2 pole, Class R, center barrier, pressure terminals, rated 250v ac, 0-30 amperes, Underwriters Safety Device - Cat. No. R25030 - 2 PR, or approved equal.
4. DC fuse blocks shall be Phenolic base, 1 pole, Class R, mainline side barriers, box type terminals, rated 1000v dc. 0 to 30 amperes or 31 to 60 amps, with reinforcing springs, Underwriters Safety Device - Cat. No. R60030-1-CR or H60060-1-CR, or approved equal.

2.04 DIODES

A. All diodes to be furnished under this Contract shall carry a JEDEC number or shall be available from more than one manufacturer and shall be used within the published specificat5M,IP M/ions for such number. All diodes shall be silicon type, unless otherwise approved by the Engineer.

2.05 RESISTORS

A. All resistors, other than those required for electronic circuits, shall be in accordance with AREMA Signal Manual Part 14.2.15.

B. Resistors for electronic circuits shall be in accordance with the applicable requirements of AREMA Signal Manual Part 14.2.40.

C. Resistors for single rail ac track circuits shall be rated at 25 watts.

2.06 REACTORS

A. All reactors, other than those required for electronic circuits, shall be in accordance with AREMA Signal Manual Part 14.2.20.

B. Reactors for electronic equipment shall be in accordance with the applicable requirements of AREMA Signal Manual Part 14.2.20.

2.07 CAPACITORS

A. Capacitors, for electronic circuits, shall be in accordance with the applicable requirements of AREMA Signal Manual Part 14.2.40.

2.08 SIGNAL TERMINAL BLOCKS

A. Signal system terminal blocks shall be in accordance with the applicable requirements of AREMA Signal Manual Part 14.1.5.

2.09 SIGNAL TERMINAL BINDING POSTS

A. Signal system terminal binding posts, other than those required for supervisory control circuits and control panels, shall be in accordance with AREMA Signal Manual Part 14.1.10.

2.10 TERMINAL POST INSULATORS

A. Terminal posts, located on terminal boards in the relay houses, relay rooms, towers, relay cases, and junction boxes shall be provided with a protective insulator. Insulators shall be provided for all terminals containing an active or a spare wire – insulators will not be required for spare terminals without wires terminating on the terminal.
B. The type of insulator shall be individual for each terminal post, and shall be fire-resistant.
C. Sleeve type insulators shall be required for all terminals containing circuits with voltages of 110 volts or greater.

2.11 LIGHTNING ARRESTERS AND EQUALIZERS

A. Lightning arresters and equalizers shall be mounted on a three post porcelain or approved type base and shall be in accordance with AREMA Signal Manual Part 11.3.1.
B. Surge protection shall be provided for all line circuits.

2.12 TERMINALS FOR WIRES AND CABLES

A. All solderless terminals shall be heavy duty and in accordance with AREMA Signal Manual Part 14.1.1, or as specified herein. Where recommended by the relay manufacturer, solder terminals will be permitted for vital relay connections. Solder terminals shall be in accordance with AREMA Signal Manual Part 10.4.1 and the manufacturer's recommendations.
B. Solderless terminals shall be of the crimp-on type. Samples of all solderless terminals shall be submitted for approval.
C. All stranded copper wire shall be fitted with an approved type of terminal at all points where the wires are to be terminated on terminal binding posts.
D. The terminating means shall be of 6 types: (I) a lug for terminating heavy wires or signal power wires; (2) a solderless insulated terminal as manufactured by Panduit, Inc., similar to Catalog No. PV12-14HDR-L, or approved equal, for terminating No. 16 AWG. 14 AWG stranded wires; (3) a solderless insulated terminal similar to Panduit, Inc Catalog No. PV10-14RX-L, or approved equal, for terminating insulated wires Nos. 12-10; (4) a solderless insulated terminal similar to AMP Catalog No. 324108 for terminating other stranded insulated wires No. 20-16 AWG having a maximum diameter of 0.200 inches; (5.) a solderless insulated terminal, AMP Catalog No. 320554, or approved equal, shall be furnished for No. 8 studs and AMP Catalog No. 320571 or approved equal, shall be furnished for one-quarter inch studs for insulated stranded wires No. 20 - 16 AWG having a maximum diameter of 0.125 inches; (6.) solder terminals for vital relays where recommended by the relay manufacturer.
E. The terminals shall be designed for attaching to the ends of the conductor in such a manner that the flexibility of the conductor will not be destroyed and the possibility of breakage at the terminal will be reduced to a minimum.
F. Terminals shall be designed for attaching to the wire with a tool made by the manufacturer of the terminal. Should the Contractor require a specialized tool to connect the terminal to the wire, the Contractor shall provide a minimum of two tools for each housing containing the specialized connections.
G. The tool shall be equipped with a ratchet device to ensure proper indentation of the terminal and which will not release until proper indentation is complete. The Contractor shall furnish 3 such tools.
H. In confined spaces where terminations are close to grounded metal or other terminations, such as LED array terminations within signal heads, wire terminations shall also have a

heat shrink insulation wrap applied as additional insulation.

2.13 TAGGING FOR CABLES, WIRES AND EQUIPMENT

A. Both ends of each cable and each cable wire and all single wires that terminate in the relay houses, relay rooms, towers, relay cases, junction boxes, signals, train stops, snowmelter cases, switch mechanisms, and any equipment of the signal system outside of such locations shall be permanently identified with a tag. Tags shall not obscure connecting links used between terminal binding posts. Tags shall be installed so that they may be read with a minimum of disturbance of the tags and wiring. Each conductor of the cable shall be rung out and identified before applying the tag.

B. The lettering on all tags shall be typed and waterproofed: tag lettering shall also be permatized. The tags shall bear the following information in the sequence listed:

1. Wire nomenclature.
2. Cable designation (if applicable).
3. Termination point (rack no., row and contact no., if applicable).
4. Termination point of other end of wire.

C. Tagging for all cables will be the same as on Cable Plans, MTB drawings,JB drawings and wiring drawings. for express twisted cables shall be designated as "CK", tagging for express vital cables shall be designated "C", tagging for local cables shall be designated as "K", and tagging for track wires shall be designated as "TK".

D. Tags for wire and cable identification shall be waterproof, sleeve type tags.

E. Terminal board terminals shall be tagged with waterproof, flat type tags securely fastened to the front of the board.

2.14 HARDWARE

A. All mounting hardware exposed to the elements and used for signal equipment, cases, conduit, hangers, brackets, clamps, etc., shall be hot-dip galvanized, except as otherwise approved by the Engineer.

B. Galvanizing:

1. The hot dip process of galvanizing shall be used. All parts shall be pickled so that all scale and adhering impurities will be removed. The zinc coating shall be of commercially pure zinc, and shall be continuous and thorough. It shall not scale or blister or be removable by any of the processes of handling or installation. The finished surface shall be free from fine line cracks, holes, or other indications of faulty galvanizing. It shall be smooth and free from adhering flux and other impurities. The edges and ends of parts shall be free from lumps and globules. Parts shall be coated with at least two ounces of zinc per square foot of galvanized surface, after all bending, cutting, drilling, and final fabrication.
2. Where steel fabrications consist of welded or other assembly processes that may damage the galvanized coatings, the assemblies shall be galvanized after fabrication.
3. In order to avoid destruction of resilience encountered in the hot dip process of galvanizing, all lock-washers shall be cadmium plated.

C. Cadmium Plating:

1. All nuts, bolts, and washers used for the mounting of equipment within finished enclosures shall be cadmium plated or stainless steel. As an alternate, the Contractor may submit another type of plating or non-corroding metal for the Engineer's approval.
2. Cadmium plating shall be an impervious, dense, hard, fine grained, continuous, closely adhering coating of commercially pure cadmium, free from capillaries and shall completely cover the surface of the part in a smooth, bright layer. Plating on raised or prominent portions shall show no evidence of blackness or loose crystalline structure. It shall have a minimum thickness of 0.0006 inch and shall withstand the salt spray

test for at least 1000 hours or an equivalent test approved by the Engineer.

2.15 CONDUIT

A. Provide conduit fill capacity, conduit layout including bend radius and conduit run.

B. The Contractor shall submit certifications of compliance and/or samples of the conduit to be installed

C. Rigid: Rigid conduit shall be used at locations as herein specified and shown on the Contract Drawings. The type of rigid conduit to be used for the various applications shall be as follows:

1. Steel conduit shall be made of the best grade standard weight steel pipe protected inside and outside by a coat of hot dip galvanizing. Where elbows are used, they shall be long radius type. Steel conduits shall be protected in shipping and handling by approved thread protectors.
2. Conduit ends shall be provided with insulated bushings to protect cables at openings.
3. Fiberglass also known as Reinforced Thermosetting resin Conduit (RTRC), manufactured using the single circuit filament winding process. Multi circuit windings are not allowed. The conduit shall have a winding angle as close as possible to 54.75 degrees. The resin system shall be epoxy based, with no fillers, using an anhydride curing agent. The fiberglass shall consist of continuous E-glass roving. The conduit shall not contain any halogen compounds containing chlorine, bromine, fluorine and iodine in more than trace amounts when burning. Conduit and elbows shall be manufactured from the same resin/hardener/glass systems manufactured by the same filament wound system. Fiberglass conduit fittings and accessories shall be manufactured using one of two manufacturing procedures. The first method shall use the same process, methods, and components as used to manufacture the fiberglass conduit. The second method shall use the compression molding process, Sheet Molding Compound (SMC), for the manufacture of the finished component. The SMC material shall be a vinyl ester resin with +30% reinforcement of glass. The glass fibers should be approximately 1" in length. The SMC material shall be fire resistant to UL 2515. Conduit shall be integral bell and spigot or bonded coupling and spigot. Conduit, elbows and fittings are specified for use throughout a temperature range of -60 degrees F (-51C) to 250 degrees F (121C). Manufacturer shall have a current Certificate of Compliance, issued by an independent and accredited company, with an ISO 9001:2008 Quality Management System.

a. Conduit shall be fiberglass-reinforced epoxy, composed of glass filaments encapsulated in an epoxy matrix size as shown on contract documents. All conduits shall be filament-wound, and shall have pigment dispersed homogeneously throughout the epoxy glass matrix for ultraviolet protection. Conduit installed in encased in concrete or exposed shall be low smoke type.
b. Each conduit length shall have an integral wound-in expanded coupling.
c. Average wall thickness shall be .070 inches (standard wall), 0.25 inchs (extra wall).
d. Conduit and fittings.in the 2 inch through 6 inch sizes, inclusive, shall have inside diameters equal to the trade size.
e. Conduit shall be suitable for continuous operation from -40 degrees C to +120 degrees C without significant change in mechanical properties.
f. Conduit shall have a burning point in excess of 130 degrees C (+ 124 degrees C for above ground installation) and combustion shall cease when the heat source is removed. When tested in accordance with ASTM D635, conduit shall not outgas chlorine. Other toxic gases shall not outgas in excess of .0015 cubic feet per square foot of material.
g. Conductor shall not adhere to conduit or fittings in fault conditions.
h. Conduit shall have the following minimum physical properties:

(1) Tensile strength, longitudinal: 11,000 psi, when tested per ASTM D2105.

(2) Compressive strength, axial: 12,000 psi, when tested per ASTM D695.
(3) Ultimate elongation: 2 percent when tested per ASTM D2105.
(4) Modulus of elasticity in tension: 1400,000 psi, when tested per ASTM D2105 - for below ground..
(5) Modulus of elasticity in bending: 2,280,000 psi, when tested per ASTM D2105 - for above ground and 2,500,000 - for below ground.
(6) Thermal conductivity: 2.0 BTU/Hr./Sq.Ft./Degrees F/Inch per ASTM D5930-01
(7) Coefficient of linear thermal expansion: 1.37 x 10 -5 Inch/Inch/Degrees F, when tested per ASTM D 696.
(8) Specific gravity 1.94, when tested per ASTM D 792
(9) Temperature range: Minus 40 Degrees C to plus 110 Degrees C for below ground and minus 40 Degrees C to plus 124 Degrees C for above ground.
(10) Dielectric Strength: 500 volts/mil, when tested per ASTM D 149.
(11) Dissipation factor: 0.005 percent average at room temperature, when tested per ASTM D150.
(12) Water absorption: less than 1 percent when tested per ASTM D570. There should be no evidence of water leakage through the joint when tested in accordance to UL 1684 and CSA-C22.2 No. 211.3-96. In order to achieve water tightness use Champion Mix or Epoxy Adhesive Kit for Tight Lock Joint or equivalent.

i. The conduit shall have passed UL flammability tests UL 1684 - for above and below ground and UL 94 for below ground only.
j. All conduit elbows, bends, sweeps, deflection fittings, expansion fittings, and miscellaneous fittings shall conform to NEMA TC and shall be UL listed.
k. Each 10-foot length of conduit, sizes 2 inch through 6 inch, shall be provided with an integral end bell or factory-installed double end bell, containing a urethane seal. The other end of each 10-foot length shall be provided with a scribe mark, indicating the proper distance to which the conduits must be mated to ensure a secure (100-pound pull out), water-tight (15 psi) connection. 20-foot lengths will only be used where permitted by CTA.
l. Each length and each fitting shall be listed by the Underwriters' Laboratories, or the Canadian Standards Association, and shall be provided with an appropriate label affixed thereto.
m. Contractor shall submit for approval, shop drawings and descriptive literature for all conduit, fittings, spacers, support devices, anchors, and hangers

D. Flexible Metallic Conduit(LFMC).

1. Where the Engineer permits the use of metallic flexible conduit, the conduit shall be Type UA, or Authority approved equal.

a. Conduit shall be designed for use in 80°C (176°F) in a dry location, 60°C (140°F) in a wet location, 70°C (158°F) in an oily locations and 75°C (167°F) in dry/oily locations
b. Conduit shall be ultraviolet resistant.
c. Use in application for direct burial in either earth or concrete encasement and outdoor.

E. Flexible Non-metallic Conduit

1. Voltage less than 200 VDC

a. Hose for switch-and-lock movements shall be Braided Cordura Rayon, vari-purpose hose, internal tube neoprene cover, or Authority approved equal.
b. The hose shall be clamped at both ends with stainless steel clamps.
c. Clamps are not required for track wire risers.

2. Voltage greater then 200VDC

a. The hose shall be clamped at both ends with stainless steel clamps.
b. Conduit shall be designed for use in 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 60°C (140°F) in an oily locations.
c. Conduit shall be ultraviolet resistant.
d. Conduit shall be flame resistant.
e. Conduit shall be Orange in color for applications and cables where voltage is greater then 200 VDC.

F. Fittings

1. Approved FRE fittings shall be used for FRE conduit. All fittings for rigid steel conduit, it shall be of cast malleable iron, and shall be protected by hot-dip galvanizing.
2. Expansion joints for conduit, if required, shall be Authority approved.

G. HDPE Conduit

1. Conduit for mainline cables within ballasted areas and for fiber optic cable innerduct shall be solid wall high density polyethylene type conduit, with an SDR of 11. Conduits shall be in accordance with ASTM D3035, ASTM D 2239, and ASTM D 2447.
2. Conduit material shall be high density polyethylene manufactured from a thermoplastic polymer in accordance with ASTM D 33350. Resin properties shall be in accordance with the following ASTM testing procedures.
3. COMMAND TRANSMISSION LOOPS
4. FIBER OPTIC cable innerduct shall be solid wall high density polyethylene type conduit, with an SDR of 11. Conduits shall be in accordance with ASTM D3035, ASTM D 2239, and ASTM D 2447. loop cable leads

2.16 STAINLESS STEEL CLAMPS

A. Clamps for clamping hose shall be stainless steel. Hose shall be secured at both ends and two to three times in the middle.

2.17 SECURITY

A. PADLOCKS AND KEYS

1. Dual control switch machines shall be provided with CTA compatible Adlake type switch locks complete with a 13-1/2 inch bronze chain and all mounting hardware. Two locks shall be provided for each switch machine, one for each hand throw position. Twenty five keys shall be provided for the type of lock installed.
2. Padlocks for all other signal apparatus containing hinged or removable doors shall be provided with a split 1/2-inch Raco type hexagon spanner locks, complete with a 13-1/2 inch bronze chain and all mounting hardware. Twenty five keys shall be provided with each type of lock installed.
3. Relay house doors provided with a vandal-resistant angle shall also be provided with a Best brand padlocks with blank cores and bronze chain in addition to the Adlake door lock specified herein. Blank cores will be changed by the Authority after Contract acceptance and closeout. Door latch shall have a 5/8" diameter opening for accepting a CTA lock shackle.
4. Relay houses and rooms provided with a separate control panel area shall be provided with a Best brand padlock with a blank core.
5. Electric switch lock foot latches shall be provided with CTA compatible Keline type switch locks complete with a 13-1/2 inch bronze chain and all mounting hardware. Keline locks shall be re-worked to fit an Adlake lock. Twenty five keys shall be provided for the type of lock installed.

2.18 SEALING COMPOUND

A. Sealing compound for use in sealing cable entrances shall be in accordance with AREMA Signal Manual Part 15.2.15.

2.19 PAINT AND FINISH

A. All paint and painting procedures shall be in accordance with applicable specifications given in AREMA Communication and Signal Manual Part 1.5.10, where the requirements of the AREMA Recommendations do not conflict with any requirement of these Specifications.

2.20 CABLE ENTRANCE PIPES

A. Cable entrance pipes for relay houses, relay rooms, towers, wayside cases, and junction boxes shall be four inch FRE, and shall be furnished complete with one holding device and one bushing for each such pipe. One spare entrance pipe assembly shall be furnished for each enclosure.

2.21 SIGNS

A. Wayside signs shall be made of reinforced fiberglass. Refer to sheet TT-028 for signs. C-12, C-15 (OP-5331), Yard Out, and Yard in signs will be required.
B. The graphics on the signs shall be high intensity grade reflective material.
C. All double-face signs shall be solid panels and shall not consist of pieces laminated together.
D. All signs shall be resistant to burning by cigarettes, scratching, ink, paint, acids, and alkalis.
E. Markings, inks, and paints shall be removable with soap and water or solvents without marring the surface of the signs.
F. All signs shall have small radius corners.
G. All signs shall be capable of being drilled, tapped, counter sunk, sheared, and sawed with normal tools without causing damage to the sign.
H. All signs shall be capable of being installed without the use of frames.
I. Signs shall be sized as shown on the drawings.
J. Signs shall be manufactured in accordance with the appropriate Graphics Engineering Specification CTA-0616, CTA-9610, CTA-4567, CTA-0922 etc within the Contract.

2.22 EXTERIOR MIRRORS

A. Exterior mirrors shall be acrylic type, having a high degree of vision quality, with a frame that is corrosion, UV, and weather resistant. Mirrors shall be rated for outdoor use.

2.23 RUBBER MATS

A. Rubber mats shall be furnished for installation in each relay house and relay room, where the relay room is not provided with a vinyl or other insulating floor material. Rubber mats shall meet the applicable sections of ANSI C37-14 and NEMA 1CS-1970.

2.24 ENVIRONMENTAL PROTECTION

A. Protection as hereinafter specified, for machined finished surfaces, threaded rods and nuts and other parts that are susceptible to rusting shall be a corroding preventive compound, NO-OX-IDE No. 90918, or Authority approved equal. The product must have sufficient body to resist weather and rusting for at least six months. Two gallons or equivalent weight shall be furnished by the Contractor.

2.25 DATA COMMUNICATION SYSTEM GAS TUBE LIGHTING ARRESTERS

A. All gas tube lightning arresters furnished shall be two-electrode screw-in type. The

arresters shall be UL approved for use on the terminal blocks furnished under this Contract. Arresters shall be rated as Heavy Duty, as per REA Bulletin 345-83 (PE-80), as manufactured by Marconi, Emerson Electric, or approved equal.

2.26 FIBERGLASS FOOTWALK

A. All footwalk, platform grating, railings, and sign posts shall be fiberglass. The fiberglass shall be fabricated with continuous strand roving mat reinforced, thermoset unsaturated vinylester electrical insulating laminate produced by the pultrusion process with a UV inhibitor.

B. Standard grating panels shall be two inches thick, 30 inches wide, with a 50 percent open surface.

C. Color shall be gray.

D. Sealant for cut fiberglass edges shall be in accordance with the walkway manufacturer's recommendations. Whenever the Contractor is required to cut the existing fiberglass footwalk to allow the installation of equipment, the cut edges shall be sealed to maintain the integrity of the footwalk.

2.27 TELEPHONES

A. Telephones in Relay Houses, Towers, and Relay Rooms:

1. Relay house, room, and tower telephones shall be two line, DTMF pushbutton type wall telephones. They shall have a line terminating impedance of 600 ohms when off-hook.
2. Telephones shall be of rugged construction, suitable for exposed environments typical of a railroad. Non-modular armored cords shall be used.
3. Telephones shall be furnished on a backboard with terminations and surge protection.
4. For relay houses and rooms without separate control panel areas, one phone shall be provided for each house and room. Where a separate control area is provided within the house or room, two phones shall be provided, with one phone located within the control panel area, and the other phone located within the signal equipment area.

B. Wayside Telephones

1. Wayside telephones shall be provided adjacent to the control panel locations at interlockings, terminals and yards. Wayside telephones shall be modified 2554 type wall telephones. Wayside telephones shall have an impedance of 600 ohms in both transmit and receive modes.
2. Wayside telephones shall be of rugged construction, suitable for exposed environments typical of a railroad. Outdoor telephones shall be Gaitronics model 226C-F95083 or approved equal equipped at the point of manufacture with the CTA standard lock, Adams-Westlake P307779.
3. Wayside telephones shall be enclosed in NEMA 4 weatherproof telephone boxes fabricated of 14-gauge steel or 1/4 inch fiberglass. The boxes shall be finished inside and out with aluminum paint and shall be locked with a padlock, keyed as directed by the Authority. Doors shall be of top hinge type with a brace holding the door in the raised position. The telephone boxes shall house the wayside telephone and six pair protected terminal block.
4. Telephone instruction and identification markers shall be permanently affixed to the inside of each wayside phone box.

2.28 OUTDOOR LIGHTS FOR SWITCH MACHINE LAYOUTS

A. Provide 8 outdoor lighting for switch machine layouts that will be an LED Switch Point Light as provided by Twinco Mfg. Co. or equivalent.

B. Light will consist of a solid state design, low heat generation and power consumption, suitable for wet and hazardous locations, rugged aluminum housing and 100,000 hour life

LED's.

C. Lens shall be heat and impact resistant.

D. External mounting hardware shall be stainless steel.

E. Lights shall be furnished complete with base lamp supports and mounting pedestals.

F. Each light shall consist of nomenclature that will coincide with the switch it is lighting. For instance if light is positioned on switch 3A, it shall bear nomenclature that states "3A Switch Light". The nomenclature shall be installed and fitted from the manufacture to avoid any complications with warranty.

G. Provide modified CAD drawings to applicable sheets within Kimball Signal sheet set with addition of equipment and wiring for new outdoor lights.

H. Provide 5 spare light replacements for each switch light.

2.29 SIDE PROTECTION BOARDS

A. Side protection boards shall be glass infused wood, two inch by eight inch by ten foot. Boards shall be fastened to the supports with stainless steel bolts, nuts, and washers.

B. Supports shall be 1/2 inch by 2 inch galvanized steel bar, bent prior to galvanizing. Supports shall be anchored to the invert with epoxy type anchors, or lagged to the 3

PART 3: EXECUTION

3.01 INSTALLATION

A. All material and apparatus specified herein shall be installed in accordance with the detail of respective technical sections of these Specifications and in accordance with the approved Drawings.

END OF SECTION

SECTION 34 42 40

EXTERNAL CABLE

PART 1: GENERAL

1.01 DESCRIPTION

A. The work to be done under this Section consists of furnishing and installing all of the various types of cable required for signal and signal power system wiring external to wayside relay houses/rooms, towers, cases, junction boxes, factory wired mechanisms, and buildings. Required cables include but are not limited to switch machines, heater cases, junction boxes, replacement of audio frequency track circuit, replacement of audio frequency loops, AC (PF) track circuit rail connections, and impedance bond rail connections as specified within the Contract.

B. Material and workmanship shall be of the highest quality assuring durability for minimum life expectancy of forty years. These cables shall be suitable for use in the environment to be encountered on a transit signal system and shall be certified for continuous operation at 75 degrees C in wet or dry locations with no conductor failing in continuity or with loss of insulation to cross or ground less than one meg-ohm.

C. Main cables shall be defined as those cables which run between relay houses, relay rooms, cases, junction boxes, and buildings, or those cables containing conductors for more than one system function. Local distribution cables shall be defined as those cables run between a housing and an individual unit of equipment.

D. The Contractor shall also provide the necessary optical connections between the fiber optic transmission system equipment and the fiber optic outside plant.

E. Existing aerial cable brackets and messenger may be reused. Additional brackets and messenger shall be furnished and installed as required to accommodate cables being furnished and installed under this contract. All cable straps and ties shall be furnished and installed new for new messenger runs as well as for securing cables to existing bundles. When cables are added to existing bundles, the existing straps shall be removed and new straps furnished and installed and the entire bundle shall be re-dressed.

1.02 QUALITY ASSURANCE

A. Pre-qualification

1. All cable manufacturers supplying cable for this Contract must be pre-qualified by the Engineer. The Contractor shall provide all of the data required for the Engineer's evaluation and shall make the arrangements for any required demonstrations and tests.
2. Qualifications shall be based on the following criteria:

a. Past Performance and Experience. The cable manufacturer(s) must demonstrate previous successful experience in supplying cable to the railway or transit industry for use as vital signal control cables. A list of such installations shall be provided for each cable manufacturer to be considered. The manufacturer shall have a minimum of fifteen years reliable experience supplying vital signal cables of this type on at least ten railroads or rapid transit properties in the past fifteen years.

b. Quality Assurance Program. The manufacture of cables in accordance with the requirements of this Specification shall be accomplished in compliance with a Quality Assurance Program that meets the intent of the ASQC Standard CI-1985; General Requirements for a Quality Program. Such compliance shall promote a thoroughly tested cable that will render long service life to the user. Prime concern must be focused on the necessary formal assurance requirements to insure that cable failure

cannot be attributed to actions or lack of actions by the manufacturer.

c. Technical Data. The Contractor shall provide full technical data that demonstrates compliance with the requirements of this Specification for each specified cable type the Contractor plans to supply.

d. Demonstration Tests. The Contractor shall make arrangements with the prospective cable manufacturer(s) to perform demonstration tests as required by the Engineer.

e. Sample Specimens. The Contractor shall, if requested by the Authority, furnish to the Engineer sample specimens in four-foot lengths similar to that which the Manufacturer proposes to furnish for each type cable specified herein. Samples may be required prior to approval of any cable submittal. The sample specimens shall remain the property of the Authority.

f. The Manufacturer shall certify that he shall comply with the following warranty prior to selection:

(1) The Manufacturer warrants that the design, material and workmanship incorporated in each item of cable shall be of the highest grade and consistent with the established and generally accepted standards for aerial and underground cable for vital railroad signal, and power circuits; and that each such item and every part and component thereof shall comply with this Specification.

(2) The Manufacturer agrees that this warranty shall commence with the acceptance of each item of the cable, whether the defect is patent or latent, and shall continue for a period of forty years.

(3) The warranty covering any length of cable that shall be replaced by the Manufacturer under the above conditions shall be reinstated for a period of forty years effective as of the day when said replacement is effected. If the failure is found to be of major importance and affects any other item of cable, the reinstatement of the warranty shall then be extended to cover the item so affected as well, and shall start as of the date of such replacement. The warranty reinstatement provided for in this sub-paragraph shall apply only to the first replacement or repair of any such item and, in the case of failure of major importance, to the first extension of the said warranty to said affected items.

(4) The foregoing warranties are exclusive and in lieu of all other warranties, written, oral, implied or statutory (except as to title and freedom from lien). In no event shall the Manufacturer be liable by reason of breach of warranty for special or consequential damages.

(5) To assure accountability and traceability, the manufacturer shall formulate, prepare, and apply conductor insulating materials and cable outer coverings and shall perform conductor insulating and cable assembly and testing in their own plant(s).

(a) If the manufacturer does not normally prepare insulating materials in their own plant(s), it is acceptable for the manufacturer to have their proprietary formulations compounded at another non-owned facility. This facility shall be subject to the same Quality Assurance procedures and systems the manufacturer uses in their own facilities and shall be subject to audit by the CTA or it's agents under the requirements of Section 10CFR50, Appendix B, of the Federal Register.

(b) If such an outside facility is used, the manufacturer shall submit a notarized copy of the attached Quality Assurance Program form completed by the outside facility prior to award of contract.

(6) The manufacturer shall provide actual values of tests performed under these specifications.

B. After Selection

1. The Contractor shall monitor the manufacturer of the wire and cable to assure that the approved Quality Assurance Program is being closely adhered to and that the wire and cable is being manufactured in accordance with this Specification and the approved submittals.
2. Each finished wire and cable shall be traceable to the test date on file for each step in its manufacturing process.
3. Inspection

   a. The Chief Engineer or its authorized representative shall have the right to make such inspection and tests as necessary to determine if the cable meets the requirements of this Specification. The Engineer shall have the right to reject cable that is defective in any respect.

   b. The Chief Engineer shall be given a minimum of five weeks advance notice of the date the cable will be ready for final testing so that the Authority may witness the tests, if it so elects.

   c. Physical tests shall be made on samples selected at random at the place of production. Each test sample shall be taken from the accessible end of different reels. Each reel selected and the corresponding sample shall be identified. The number and lengths of samples shall be as specified under the individual tests. All applicable tests for the cable materials and cable construction specified shall be performed. The CTA inspector will select a sample at random for testing from each 25,000 feet or less batch produced for each size of cable. In no case shall the samples be taken closer than 1,500 feet apart. The inspector will witness tests on a minimum of 5% of each size of cable manufactured for this contract.

   d. The Manufacturer shall provide, at the point of production, apparatus and labor for making any or all of the following tests under the supervision of the Authority's inspector; to include:

      (1) Conductor size and physical characteristics.
      (2) Insulation HV and IR tests.
      (3) Physical dimension tests.
      (4) Special tests on materials in coverings.
      (5) Final HV, IR, and conductor resistance tests on shipping reels.
      (6) Certified electrical and physical test reports shall be furnished for the finished multiple conductor cables no later than the time of shipment. Each test document shall, in addition to the test results, indicate the date the tests were performed and the signature of the Manufacturer's authorized representative.
      (7) The manufacturer shall provide actual values of tests performed under these specifications.

   e. The Authority reserves the right to conduct itself, or by its duly authorized representative, those tests it so elects to further satisfy itself that the cable is manufactured in accordance with the requirements of this Specification.

C. Cable Manufacturer Qualifications

1. The intent of this specification is to assure the production of properly designed, quality constructed, and thoroughly tested cable which will render long service life to the user for cab signal, train detection and vital circuit signal applications. Efficient methods of production, testing and product evaluation shall be used, but prime concern must be focused on the necessary design and formal quality requirements to insure long cable life and elimination of in-service cable failure.
2. The Contractor shall submit a notarized copy of the manufacturer's Quality Assurance Program form attached to the last page of this specification section prior to the manufacture of cable for this contract.
3. Before commencing manufacture of the cables, the contractor shall submit to the CTA for

its approval, a Quality Assurance plan from the manufacturer. The plan shall meet all requirements of this specification. The plan shall cover all stages of manufacture, from receipt of incoming materials, assembly, calibration of test equipment, final test and shipment. The plan shall provide for written documentation of tests and inspections made under the plan and such documentation shall be made available at the cable manufacturer's plant for the CTA's inspection. Revisions to the plan shall be submitted to the CTA for its approval

4. The manufacturer must satisfactorily pass the annual audits conducted by the CTA or its agents as called for in Section 10CFR50 of the Federal Register.

D. Post Manufacturing

1. Prior to the shipment of any cable, the Contractor shall furnish and submit to the Authority certified copies of the final certified test results and reports which includes the itemized tests required by this section, using procedures as called for by the respective ASTM specifications and any other tests required per this specification.
2. The Contractor shall not have cable shipped from the Manufacturer without approval.

1.03 SUBMITTALS

A. The Contractor shall submit the following to the Engineer for approval:

1. List of each cable manufacturer's railway signal installations. A detailed list identifying previous users, date cable was supplied, and name and telephone number of references shall be provided.
2. Each cable manufacturer's Quality Assurance Program.
3. Full technical data for each type of cable which each cable manufacturer intends to supply. Complete technical information to ensure that the conductor, insulation, and jacket meet the requirements of this specification for the type and size of cable involved. The insulation and jacket thickness shall be as specified.
4. Calculations showing proposed cable bundle sizes, conduit and tray fills, and maximum pulling tensions.
5. Proposed aerial cable attachment details.
6. Manufacturer's recommend maximum pulling tensions for each cable type
7. The trade name and insulation and jacket for each type cable proposed to be furnished and installed.

B. The Contractor shall submit two certified copies of the following to the Engineer for approval.

1. Cable test reports for all demonstration tests required by the Engineer.
2. Cable test and inspection reports for tests and inspections required and described by these Specifications.
3. Test reports of cable tests conducted in the field in accordance with approved testing procedures.
4. Certification that each cable supplied complies with the requirements of these Specifications.

C. Information to be supplied by certified cable test reports shall include the following:

1. Report number
2. Date and location of test
3. Description of test and test conditions
4. Complete cable or wire description
5. Lot, batch, or reel identification number
6. Quantitative test results
7. Summary of the test results

8. Information on the components of the cable tested to include batch numbers and physical and electrical properties.
9. Type of: cable, insulation and jacket (sheath); cable size, conductor stranding and specification number.
10. A statement that the cable does or does not comply with this specification
11. Conductor resistance per 1000 feet

D. The Contractor shall submit a complete, signed and notarized standard Wire and Cable Test Report Sheet as part of each cable test report.

E. The Contractor shall furnish to the Authority product data cut-sheets and a sample specimen of a four-foot length, if required, for each proposed cable type. The samples shall remain the property of the Authority.

F. The Contractor shall furnish to the Authority five copies of the cable manufacturer's instructions and procedures together with one sample end seal specimen for pot heading of each type underground cable to be furnished and installed under this Contract.

G. OMITTED The Contractor shall submit, prior to construction, detail plans of any cable raceway installations showing all hardware to be used, methods of attachment, cable routing through junctions, and concrete, backfill or other raceway covering if applicable.

H. The Contractor shall submit, prior to construction the proposed cable routing alignments as described herein.

I. OMITTED Catalog cuts and materials descriptions for proposed raceways. Where the specifications call for conformity to material testing, the Contractor shall provide documents proofing conformity.

J. The Contractor shall submit, prior to pulling cable in conduits, cable pull calculations demonstrating the maximum pulling tension allowable for each cable run.

K. The Contractor shall submit certified test reports verifying that the calculated pulling tension was not exceeded for each cable run in conduit

1.04 SPLICING

A. Splices in cab signal, train detection, vital or non-vital signal cables shall be strictly prohibited.

1.05 DELIVERY, STORAGE AND HANDLING

A. All cable shall be shipped on reels, adequately protected from damage in shipment by heavy wrapping or wood lagging to preclude the hazard of reels moving obliquely against each other. The manufacturer shall also be responsible for any change in the shape of the cable occurring in normal transit that results in an increase in the maximum diameter beyond that specified. The external protective wrapping on reels shall be secured by at least two steel bands to insure damage free shipment.

B. Each length of cable shall be wound on a separate reel. Reels shall be substantial to withstand handling and shall be so designed that the inner end of the cable will be secured and accessible but protected from injury.

C. If the inner end of the cable projects through the flange of the reel, the inner end shall be protected by a suitable cover of metal having rounded ends and sides and securely fastened in place to protect the cable end. Both ends of cable on reel will be secured in place, to prevent their becoming loose in transit or handling of reel.

D. The diameter of the reel drum shall be at least fourteen times the cable diameter to prevent damage to the cable during reeling. The arbor hole shall admit a spindle 2-1/2 inches in diameter without binding. The reels shall be designated and constructed as non-returnable when drum size and cable weight and volume permit. The maximum width of reel shall not exceed 48 inches unless otherwise specified.

E. After passing factory tests, cable shall be effectively sealed against the entrance of moisture. Both ends of each length of cable shall be protected by wrappings of rubber tape and plastic tape, an effective boot taped or sealed into place, or other suitable means approved by the

Engineer. The use of friction tape, other than an external mechanical protection over an adequate rubber and/or plastic tape, will not be accepted. The cable end protection will be adequate to protect the cable in shipment and prolonged external storage in the weather if not immediately employed without regard to the position of the reel while so stored.

F. Cable shall be closely and tightly wound, in a uniform manner, in each layer on reels.

G. An arrow shall be painted on one head of each reel pointing the opposite direction from the outer end of the cable with the words "Roll This Way" employing letters not less than 3/4 inch height and an arrow not less than six inches in length and 1/2 inch in width.

H. Each reel shall contain a weatherproof tag, firmly attached to the reel, showing the size of the conductor, type of conductor, number of feet, gross weight, type of jacketing, name of manufacturer, date of manufacture, and any other necessary identification.

PART 2: PRODUCTS

2.01 OMITTED SINGLE CONDUCTOR 1000 VOLT POWER CABLE

2.02 VITAL SIGNAL CABLE – AERIAL AND UNDERGROUND

A. Individual Conductors of Aerial and Underground Signal Cable

1. General Requirements

a. Single conductors and the individual conductors of multi-conductor signal cables shall be rated for continuous operation at 75 degrees C in wet or dry locations. The rated life shall be 40 years.

b. Conductors shall be rated for a minimum of 1000 volt for vital signal applications.

2. Material Requirements

a. Conductor

(1) Stranded conductor: The conductor shall be soft or annealed copper of 7 or 19 strands in accordance with ASTM B8-04, and tinned or lead alloy coated, conforming to ASTM B 33-04 or B 189-05 respectively. All conductors shall be concentric lay, Class B stranding. Conductors shall have no welds or factory splices of any kind after final wire drawing. The conductor shall be free of longitudinal or lateral nicks or scratches and shall be uniform in gauge.

(2) Resistance of conductor- The direct current resistance of the conductors shall conform to ICEA Standard Publication S-19-81 (1994) - Section 2.5.2

b. Conductor Insulation:

(1) Conductors shall be insulated with a highly moisture and ozone-resistant EPR compound, which has demonstrated, either through actual field experience and/or through comparable valid aging tests, that the cable offered shall have a life expectancy of a minimum of forty years. Substances which are injurious to the conductor or insulation shall not be included in the compound. The conductor insulation shall meet the dimensional, electrical and physical properties of this specification and as listed in Section 26 84 00 Appendix A.

(2) The insulation shall be properly vulcanized, homogeneous in character, tough, elastic, and applied concentrically about the conductor, and shall fit tightly thereto; the resulting compound shall be clean and free stripping, leaving the coated conductor, upon stripping, unimpaired and ready for soldering.

(3) The insulation thickness specified in Table A-1, at the thinnest part of any cross section of insulated wire, shall not be less than 90% of that specified. The average thickness shall be at least the value shown.

(4) The average thickness of insulation shall be no less than the specified thickness. The minimum thickness at any point shall not be less than 90% of that specified.

(5) Omitted.

(6) Omitted.

TABLE A-I

Insulation Thicknesses and Test Voltages for Single Conductor Wire Prior to Sheath Application

Circuit Voltage	Conductor AWG	on Thickness mils	Test Voltages	
			ts, 5 Minutes	s, 10 Minutes
0-1000	16 to 8	62	8,000	5,000
	7 to 2	78	0,000	0,000

The test voltages for Tandem Extruded insulation and jacket for Single Conductor wire are as follows:

Table A-I Modified

Test Voltage for Composite Thickness

Insulation Thickness mils	AC (1) Test Voltage	DC Test Voltage
62.5 (4/64)	9.5kV	26kV
78.0 (5/64)	12.0kV	31kV
94.0 (6/64)	13.0kV	34kV

3. Production Testing of Individual Single Conductors

a. AC Test - Each length of conductor, insulated with prime insulation, prior to application of any outer jacket and prior to cabling or twisting, shall be random-wound on spools and immersed in water for a minimum of twenty-four hours, then subjected to test voltages given above for five minutes, without showing signs of puncture, overheating, or self-healing of punctures. Voltage to be applied between conductor and water (ground).

b. Insulation Resistance Test - Immediately after the ac test specified above and while still submerged, an insulation resistance test shall be made on each length of conductor. The insulation resistance constant shall not be less than 25,000 megohms - 1000 ft. when corrected to 60EF.

c. DC Test - the dc test may be done either following an insulation resistance test or at least eight hours prior to the ac test, providing the insulated conductor has been continuously immersed for a period not less than sixteen hours prior to the dc voltage application. Each length of insulated conductor, while submerged, shall withstand, without failure, the high voltage dc test for five minutes at the potentials given in Tables A-I.

d. Dry "Spark" Test: The single insulated conductors shall be passed through high voltage test electrodes energized with a minimum of 10 (ten) kV, 60 cycle AC to insure detection of damage to conductor insulation.

e. AC Test (Wet Tank): Before any further assembly, every individual insulated conductor shall be randomly wound on reels, submerged in water, and subjected to 5 minutes of AC-60 HZ test voltage as called for in Table I of this specification. This test

shall be made while still submerged for at least 24 hours.

f. Insulation Resistance Testing: Immediately after the AC test and while the conductor is still submerged, an insulation resistance test shall be made on each length of conductor. The insulation on resistance constant, "K", in the following formula, when corrected to 15.6°C (60°F), shall not be less than 35,000 MEGOHMS 1000'.

$$R = K \log_{10} \frac{D}{d}$$

R=Insulation resistance in megohms per 1000' at 15.6°C (60°F)
K=35,000 megohms constant - 1000' unit.
D=Diameter over conductor insulation.
d=Diameter under conductor insulation.

g. DC Test: Immediately after the insulation resistance test, and while still submerged, each coil or reel length of insulated conductor shall be subjected to and withstand the DC test voltage as shown in Table I of this specification for 10 minutes.

4. Individual conductor identification:

a. Each individual conductor shall be uniquely identified by means of numbers printed directly on the conductor insulation. Coding shall begin with the word "one" and continue in sequence without repetition until all conductors are identified (i.e.: one, two, three, etc.). The number on each conductor shall be printed with ink as referenced in ICEA S-19-81, Sec. 5, Method 3, in two parallel lines 180 degrees apart with one line reversed in direction relative to the other. This identification shall repeat a minimum of every six inches for the entire length of the cable. The ink shall be white for insulation material that is black or brown in color. The ink shall be black for conductor insulation that is orange, lighter red or any other light color.

B. Single Conductor Cables

a. Sheaths - Individual insulated conductors not intended for assembly into multi-conductor cables shall be covered with a thermal-set chlorinated polyethelene compound sheath in accordance with the properties in Section 37 26 16 Appendix A, applied over the primary thickness of insulation specified above. The average thickness of sheath compound shall be not less than the value specified for single conductors in Table A-VI .

b. Single Conductor Identification - The sheath of single conductor cables shall be surface-printed with a legend identifying the manufacturer, year of manufacture, conductor size, and voltage rating in a contrasting ink; durable surface colors are required.

c. Omitted

Table A-VI

Size of Conductor AWG	Insulation Thickness mils	Thickness of Sheath (mils)	Test Voltages AC Volts, 5 Minutes
6	94	62	7,500
8	78	62	6, 000
9	78	62	6, 000

C. Assembly of Vital Signal Multi-Conductor Cables

1. Multiple conductor cables shall be made by assembling individually insulated, printed conductors into a tight cylindrical form. Individual conductors in a cable having two or more conductors shall be assembled helically and with adjacent layers wound in opposite directions.
2. When fillers are required to make the cable round, they shall be non-hygroscopic and flame retardant. Cable tape shall be applied around the cable core of multiple-conductor cables, and shall also be non-hygroscopic and flame retardant.
3. Cable tape shall conform to Section 4.4 of ICEA, except that compound-filled tape shall be treated on both sides and thoroughly filled with a rubber compound. Where colored tapes are called for, the colors shall be clear, durable, and of easily distinguishable shades; they shall have no harmful effect on any part of the cable.
4. Manufacturer's Identification Marker – A waterproofed marker tape bearing the manufacturer and year of manufacture shall be inserted in wires and cable for identification purposes. The identification marking shall be placed at such intervals that all information may be obtained without destroying more than three feet of cable. This information shall be as follows:

   a. Multiple conductor cables shall have the marker tape so located as to be readily identified.
   b. For all cables not included in the above, the manufacturer's color tracer threads shall be inserted between the conductor and the insulation or among the strands of a stranded conductor.
   c. As an alternative to the marker tape or tracer threads, the information may be placed on the outer sheath by indented print..

5. Outer Sheath

   a. A continuous tubular sheath of high tensile strength moisture and flame-resistant properly cured base product of thermal-set chlorinated polyethylene compound shall be tightly formed around the insulated conductor(s) to provide protection against mechanical damage and the entrance of moisture, earth acids, and alkalis into the cable. It shall not adhere to the insulated conductors of multiple-conductor cables and shall conform to Section 26 84 00 Appendix D. It shall be applied by the continuous tube method, without joints, and shall be properly cured to meet test requirements.
   b. Average thickness of sheath compound for single conductor and multi-conductor cables shall be not less than values specified in Table A-III.
   c. Omitted.

TABLE A-III

Average Sheath Thickness for
Single Conductor (not identified elsewhere)
and Multi-conductor Cables

Calculated Diameter of Cable Core, in Inches	Thickness of Sheath in 64ths of an Inch	
	Single Conductor	Multiple Conductor
0 to 0.425	4	5
0.426 to 0.700	5	6
0.701 to 1.050	6	7
0.051 to 1.500	7	8
1.501 to 2.000	8	10
2.001 to 3.000	9	12
3.000 and larger	10	14

The minimum thickness of the sheath compound at any point shall not be less than 90% of the specified thickness.

6. Manufacturer's Identification Marker

   a. A waterproofed marker tape bearing the name of the manufacturer and year of manufacture shall be inserted in wires and cables for identification purposes. The identification marking shall be placed at such intervals that all information may be obtained without destroying more than one foot of cable. This information shall be inserted as follows:

   b. Multiple-conductor cables shall have the marker tape so located as to be readily identified.

   c. For all cables not included in the above, the manufacturer's color tracer threads shall be inserted between the conductor and the insulation or among the strands of a stranded conductor.

   d. As an alternative to the marker tape or tracer threads, the information may be placed on the outer sheath by indented print.

7. Outside Diameter

   a. The maximum outside diameter or finished wire and cable shall not exceed the nominal outside diameter by more than the following tolerances:

Nominal Diameter - Inch	Tolerance - Inch
0 to 0.600	0.030
0.601 to 2.000	5%

TABLE A-IV

Properties of Cross-Linked Polyolefin Sheath

	Property	Test Method	Value
Original	Tensile Strength PSI Elongation %	ASTM D 412 ASTM D 412	1700 Min. 150 Min.
Air Oven Aged	168 hours @ 100C Tensile Str % Original Elongation % Original 168 hours @ 125C Tensile Str % Original Elongation % Original 168 hours @ 150C Tensile Str % Original Elongation % Original	 ASTM D 573 ASTM D 573 ASTM D 573 ASTM D 573 ASTM D 573 ASTM D 573	 100 Min. 75 Min. 75 Min. 60 Min. 60 Min. 60 Min.
ASTM #2 Oil	22 hours @ 125C Tensile Str % Original Elongation % Original	 ASTM D 471 ASTM D 471	 50 Min. 50 Min.
Durometer	Shore A	ASTM D2240	85 ± 5
Low Temp. Flex.	Pass EC	ICEA S-19-81	-40
Water Absorption	168 hours @ 70C mg/in^2	ASTM D 470	30 Max.
Oxygen Index	% Oxygen	ASTM D 2863	35 Min.
Smoke Generation	Flaming Avg. Ds 4 min Flaming Avg. Dm Non-flaming Avg. Ds 4 min. Non-flaming Avg. Dm	ASTM E 662 ASTM E 662 ASTM E 662 ASTM E 662	150 Max. 250 Max. 150 Max. 300 Max.
Ozone		ASTM D 470	Pass

*NOTE: Smoke Generation values also apply to the EPR Insulation. All smoke tests are on 3 inch x 3 inch square slabs of material having a thickness of 100 mils.

D. Finished Cable Tests

1. Each completed multi-conductor cable, when on the shipping reel, shall be subjected to and successfully pass twice the ac test voltage levels given in Table A-II for one minute. This voltage to be applied to each conductor against all others grounded, or between conductors utilizing a mid-point grounded test transformer to assure that each conductor is tested against each adjacent conductor in its layer and conductors in adjacent layers. This required repeat application of test voltage should be done by reversing voltage combinations between layers. Cable shield, if any, shall be connected to ground.
2. The insulation resistance test shall be made in accordance with Section 6.23 of ICEA, using a well-insulated and sensitive galvanometer. When the temperature at which the cable is tested differs from degrees F, the insulation resistance shall be corrected to that at degrees F.
3. The insulation resistance constant shall not be less than 25,000 megohms--1000 feet when corrected to 60 degrees F.
4. All completed cable must pass the IEEE - 383 70,000 BTU/Hr. Vertical Tray Flammability Test.

2.03 SIGNAL DTS, TRAIN DETECTION AND SUPERVISORY CONTROL CABLE

A. General Requirements

1. The aerial Train detection 2/C-#14 twisted pair cables to be furnished and installed under this Contract shall meet the requirements of this specification.
2. Train Detection, cab signal, Communication and supervisory control cables intended for installation in ducts, open air, or buried in earth shall be rated to withstand a minimum rated circuit voltage of 600 volts.
3. All pairs shall be guaranteed for end-to-end continuity and to be free of such manufacturing defects as short circuits, crosses, or opens.
4. Omitted
5. The following is a list of organizations and standards that make up a part of this specification as referenced herein. The current revision or edition applicable at the time of Bid shall apply:

   a. ASTM (American Society for Testing and Materials) Standards
   b. B 8: Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
   c. D 470: Standard Test Methods for Cross-linked Insulations and Jackets for Wire and Cable
   d. D 2863-00: Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index
   e. ICEA/NEMA (Insulated Cable Engineers Association/National Electrical Manufacturers Association) Standards
   f. ICEA S-19-81/NEMA WC 3: Rubber-Insulated Wire and Cable for Transmission and Distribution of Electrical Energy
   g. ICEA S-68-516/NEMA WC 8: Ethylene-Propylene-Rubber-Insulated Wire and Cable for Transmission and Distribution of Electrical Energy
   h. ICEA S-56-434 Standard for Polyethylene-Insulated Communications Cables
   i. ICEA S-61-402 Polyethylene-Insulated Wire and Cable for Transmission and Distribution of Electrical Energy
   j. IEEE (Institute of Electrical and Electronics Engineers) Standards
   k. IEEE Standard 383: Standard for Type Test of Class 1E Electric Cables, Field Splices and Connections for Nuclear Power Generating Stations
   l. Military Specifications

      (1) MIL-C-24643: General Specification for Cable and Chord, Electrical, Low Smoke, for Shipboard Use

   m. NES (Naval Engineering Standard (British Defense)) Standards

      (1) NES 711: Determination of the Smoke Index of the Products of Combustion from Small Specimens of Materials
      (2) NES 713: Determination of the Toxicity Index of the Products of Combustion from Small Specimens of Materials

   n. Where standards are at variance with each other or with other portions of this specification, the most stringent requirements, as determined by the Chief Engineer from the Chicago Transit Authority, shall apply.

B. Material Requirements

1. Where characteristics are not specifically defined by the following, the provisions of the latest editions of ICEA Publications, No. S-56-434, "Standard for Polyethylene-Insulated Communication Cables" and S-61-402, "Polyethylene-Insulated Wire and Cable for Transmission and Distribution of Electrical Energy" shall apply and govern.
2. Conductors shall be stranded AWG # 14 gauge, bare soft or annealed copper and before insulating shall meet the requirements for elongation and resistivity given in ANSI/ASTM

B. Conductors shall be 7 strands (Class B) and shall be in accordance with ASTM B-8. Conductors shall have no welds or factory splices of any kind after final wire drawing. The conductor shall be free of longitudinal or lateral nicks or scratches and shall be uniform in gauge. Resistance shall be per ICEA S-19-81 - Section 2.6.

3. Each conductor shall have a duplex type insulation with the first layer over the copper being polyethylene and the exterior layer being PVC. The overall thickness shall not be less than 30 mils. The nominal polyethylene thickness shall not be less than 20 mils and the PVC covering shall be nominally not less than 10 mils. The polyethylene shall comply with or exceed the applicable requirements of the latest revision of ASTM D1351. The PVC shall comply with Paragraph 3.7 and/or 3.8 of IPCEA-NEMA Standards Publication Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (ICEA Pub. No S-61-402; NEMA Pub. No WC-5. The insulation shall be properly vulcanized, homogeneous in character, tough, elastic, and applied concentrically about the conductor, and shall fit tightly thereto; the resulting compound shall be clean and free stripping, leaving the coated conductor, upon stripping, unimpaired and ready for soldering.
4. Color-coding of cable pairs shall be in compliance with ICEA Specification S-56-434, Section II-7. One of the conductors for each cable pair shall be white. Each individual conductor shall be uniquely identified by means of numbers printed directly on the conductor insulation. Coding shall begin with the word "one" and continue in sequence without repetition until all conductors are identified (i.e.: one, two, three, etc.). The number on each conductor shall be printed with ink as referenced in ICEA S-19-81, Sec. 5, Method 3, in two parallel lines 180 degrees apart with one line reversed in direction relative to the other. This identification shall repeat a minimum of every six inches for the entire length of the cable. The ink shall be white for insulation material that is black or brown in color. The ink shall be black for conductor insulation that is orange, lighter red or any other light color .
5. Every two conductors shall be assembled with a random length of twist to form twisted pairs bound with a mylar tape applied helically with an overlap and arranged in layers to form a cylindrical core in accordance with ICEA Specification S-56-434, Section II-9.
6. The core shall be completely covered with one or more layers of moisture-resistant material to provide separation between the core and inner jacket.
7. Single Pair
   a. The single pair shall be bound with a mylar tape applied helically with an overlap. The overall cable core shall be assembled with flame and moisture resistant fillers as required and shall be round. An outer jacket of flame resistant thermal-set chlorinated polyethylene shall be applied over the core to form a sheath. The sheath shall meet the requirements of Section 26 84 00 Appendix D of this specification. The thickness of the outer jacket shall be 62 mil. The minimum thickness at any point shall not be less than 90% of that specified.
   b. (Omitted).
   c. (Omitted).
8. Omitted
9. Outer Jacket – Multi-pair
   a. A continuous tubular sheath of high tensile strength moisture and flame resistant elastomeric thermosetting chlorinated polyethylene resin shall be tightly formed around the pair assembly to provide protection against mechanical damage and the entrance of moisture, earth acids, and alkalis into the cable. It shall not adhere to the insulated conductors of multiple-conductor cables and shall conform to Table B-II. It shall be applied by the continuous tube method, without joints.
   b. Average thickness of sheath compound for multi-conductor cables shall be not less than values specified in Table B-I.

c. Omitted

10. The average mutual capacitance of all pairs in any reel shall be .083 mfd per mile or less in accordance with Section II-20 of ICEA Specification S-56-434.
11. The output-to-output, far end cross-talk loss shall comply with the provisions and tolerances of ICEA Specification S-56-434 Section II-20.
12. Each length of cable shall be permanently identified as to the manufacturer and year of manufacture, at intervals of not less than three feet, with a moisture resistant marker tape under the jacket and parallel to the longitudinal axis of the cable. The name of the manufacturer, the year manufactured, the size and type of cable (i.e.: 20pr#14, 1pr#14), and a relative footage marker number shall be identified in bold, easily read, permanent characters. This information shall be indelibly embossed or printed on the jacket. The footage marker number shall increment based on the interval of the spacing of the identification marks; the difference between any two footage markers shall accurately calculate the length of the cable segment.

TABLE B-I

DIAMETER OF CABLE CORE IN INCHES	THICKNESS OF SHEATH IN 64TH OF AN INCH
0 to 0.75	4.00
0.751 to 1.100	4.50
1.101 to 1.450	5.15
1.451 to 1.800	5.75

NOTE: The minimum thickness of the sheath compound at any point shall not be less than 90% of the specified thickness.

TABLE B-II

PROPERTIES OF THERMAL-SET CLORINATED POLYETHYLENE

	PROPERTY	TEST METHOD	VALUE
Original	Tensile Strength PSI	ASTM D 412	1800 Min.
	Elongation %	ASTM D 412	300 Min.
Air Oven Aged	168 hours @ 100°C		
	Tensile Str % Original	ASTM D 573	85 Min.
	Elongation % Original	ASTM D 573	75 Min.
	168 hours @ 121°C		
	Tensile Str % Original	ASTM D 573	85 Min.
	Elongation % Original	ASTM D 573	60 Min.
	168 hours @ 150°C		
	Tensile Str % Original	ASTM D 573	60 Min.

	Elongation % Original	ASTM D 573	60 Min.
ASTM #2 Oil	22 hours @ 125°C Tensile Str % Original Elongation % Original	 ASTM D 471 ASTM D 471	 60 Min. 85 Min.
Durometer	Shore A	ASTM D2240	90 + 3
Low Temp. Flex.	Pass °C	ICEA S-19-81	-40
Water Absorption	168 hours @ 70C mg/in^2	ASTM D 470	20 Max.
Electrical	IR Constant Dielectric Str V/mil AC	ASTM D 257	850 Min. 700 Min.
Limiting Oxygen	Index %	ASTM D 2863	30 Min.
Acid Gas Equiv.		MIL-C-24643	0.1% Max.
Tear Strength	Pounds/In.	ASTM D 624	35 Min.
Hydraulic Fluid	24 hours immersion @ 49°C Tensile Str % Original Elongation % Original	MIL-C-24543	50% Min. 50% Min. 50% Min.
Diesel Fuel	24 hours immersion @ 49°C Tensile Str @ Original Elongation % Original	MIL-C-24643	50% Min. 50% Min.
Lubricating Oil	24 hours immersion @ 99°C Tensile Str% Original Elongation % Original	MIL-C-24643	50% Min.
Methanol	24 hours immersion @ Room Temp. Tensile Str % Original Elongation % Original		50% Min. 50% Min.
Gasoline	24 hours immersion @ Room Temp. Tensile Str % Original Elongation % Original		50% Min. 50% Min.

C. Finished Cable Tests

1. Train Detection, cab signal, communication and supervisory control cables shall be tested at the factory and shall meet or exceed all requirements of ICEA Specification S-56-434, Section II-20.
2. In addition to the test specified in Table B-I and B-II each completed cable shall pass the IEEE-383 70,000 BTU/hr. Vertical Tray Flammability Test.

2.04 MESSENGER

A. Messenger for cables shall be high-tensile strength, seven strand, copper clad, 30% HS-7W messenger. The Contractor shall determine the diameter of the messenger required for the cables proposed, and the messenger diameter shall not be less than 5/16-inch diameter.
B. Messenger brackets and hardware shall be galvanized steel in accordance with these Specifications.
C. Suspension clamps shall be galvanized steel, three bolt type, Joslyn J-931 or approved equal.
D. Messenger hangers shall be galvanized steel, Hubbard No. 8911 or approved equal.
E. Cable straps for cables shall be as manufactured by 3M or approved equal.
F. J-hooks for cables with integrated messengers shall be Joslyn Type J-2235 or approved equal.
G. Pole line hardware and messenger brackets for the concrete pole line shall be galvanized steel.

2.05 SIGNAL CABLE APPLICATION

A. General:

1. The Contractor shall furnish and install cables as shown on the Contract drawings.
2. Multi-conductor Main Cable for Track Circuits and Supervisory:
   a. These are the main express cables, comprised of twisted pairs, provided along the right-of-way between relay houses/rooms, and terminating in each track circuit junction box. This cable shall contain the track circuits and the supervisory circuits.
3. (Omitted).
4. (Omitted).
5. Omitted AF track circuit cables shall be terminated in junction boxes located within 250 feet of the impedance bond or receive point. AF track circuit cables located with 250 feet of the control housing or case may be terminated on terminal boards there rather than at a junction box.
6. Main Cable for Line Circuits:
   a. These are the main express cables furnished along the right-of-way between relay houses/rooms for line circuits.
7. Omitted AF Track Circuit Connections:
   a. The cables provided for installation between track circuit junction boxes and the tuning units shall be a single twisted pair No. 14 AWG.
   b. AF track circuit cables between the express cable junction box and the impedance bond or receive point shall not exceed 250 feet.
8. AC Track Circuit Connections:
   a. The cables provided for installation between relay houses/rooms and the rails shall be two separate twisted single conductors, No. 9 AWG. The two conductors shall be twisted one turn per foot.
9. AF Loops:
   a. The cables provided for installation between relay house/rooms and the loop junction boxes shall be a single twisted pair No. 14 AWG. The cables for the loops shall be a single twisted pair No. 9 AWG, twisted every one turn per foot up to the rail, with a minimum of one turn per loop, a transposition approximately every fifty feet or less, and the total number of transpositions will be odd. Contractor shall document and replicate the existing layout and number of loop transpositions.
10. Omitted Impedance Bond Rail Connections:
    a. The cables provided for installation between the impedance bond rail lugs and the rail connections shall be 1100 kcmil cables as specified herein and within Section 26 82 50, Rail Connections and Running Rail Bonding. One 1100 kcmil cable shall be provided to each rail (twp per impedance bond).
11. Omitted Impedance Bond Return Connections:
    a. The cables provided for installation between the impedance bond neutrals for bonding shall be two 1100 kcmil cables for each location as specified herein.
    b. Elevated Structure Bonds: The cables provided for installation between the impedance bond and the structure shall be two 1100 kcmil cables, each cable with three 300 kcmil bare copper cables as shown on the Contract Drawings. The 1100 kcmil cables shall each be fitted with a lug for connection to the impedance bond. The three 300 kcmil bare copper "fingers" shall be arc welded to the structure.
    c. Substation Return Connections: The cables provided for installation between the impedance bond and the structure shall be two 1100 kcmil cables per each track, or three 1500 kcmil cables for two tracks. Each cable shall be fitted with three 300 kcmil bare copper cables as shown on the Contract Drawings. The 1100 (or 1500 kcmil if

used) cables shall each be fitted with a lug for connection to the impedance bond. The three 300 kcmil bare copper "fingers" shall be arc welded to the structure.

12. Negative Rail Bonding Cable:

    a. Negative rail bonding cables shall be one 300 kcmil bare copper stranded cable.
    b. One cable shall be provided for each stick rail (One cable bond between each set of track joints). Where the negative rail length consists of only one stick rail length (does not contain any rail joints), two bonds shall be provided.
    c. Cables shall be arc welded to the structure. Cables shall be bolted to the rails using a Cembre-type connection.

13. Color Light Signals:

    a. The cables provided for installation between relay houses/rooms and color light signals shall be a twelve conductor No. 14 AWG.

14. Electric Switch-and-Lock Movements:

    a. The cables provided for installation between relay houses/rooms and the switch junction boxes shall be two cables consisting of a threefive conductor No. 9 (minimum) AWG cable and a twelve conductor No. 14 AWG cable.

15. Electric Train Stops:

    a. The cables provided for installation between relay houses/rooms and electric train stops shall be one twelve conductor No. 14 AWG.

16. Route Selectors:

    a. The cables provided for installation between relay houses/rooms and route selector locations shall be a twelve conductor No. 14 AWG.

17. Omitted ~~Worker Ahead Signals:~~

    a. The cables provided for installation between relay houses/rooms and worker ahead control boxes shall be a twelve conductor No. 14 AWG. The signal lighting cables provided for installation between the worker ahead control boxes and the signals shall be a three conductor No. 14 AWG cable.

18. Snowmelter Control Case:

    a. The cables provided for installation between relay houses/rooms and snowmelter control cases shall be a twisted pair no 14 AWG.

19. Snowmelter Power Tap:

    a. The cables provided for installation between the contact rails and the snowmelter control cases shall be a one conductor No. 6 AWG, rated for 1000 volts dc.

20. Snowmelter Heating Elements:

    a. The cables provided for installation between the snowmelter control case and the positive end of each heating element shall be a one conductor No. 9 AWG cable. The cable from the negative end of the element to the negative running rail or impedance bond neutral shall be a No. 9 AWG cable. Both cables shall be rated for 1000 volts dc.

21. Ground Wire:

    a. Ground wires for bonding equipment to the structure shall be single conductor No. 6 AWG. Ground wires for internal case/house/room grounding shall be No. 6 AWG, stranded copper with green EPR insulation. Wayside equipment ground wire shall be

no. 6 AWG, stranded bare copper.

22. Electric Lock Cable:

a. The cable furnished for installation between each relay house and each electric lock shall be a twelve conductor No. 14 AWG cable.

23. Switch Lighting Cable

a. The cable furnished and installed between the relay house and the switch machine lighting systems shall be a two conductor No. 6 AWG cable.

24. (Omitted).

25. Traffic Line Circuits

a. The cable furnished for traffic line circuit connections shall be No. 9 AWG minimum, or larger as required to prevent voltage drop from inhibiting operation.

26. Omitted ~~Telephone Cables~~

a. The cable furnished for external telephone cables from wayside telephones to the station communications rooms shall be a 6-pair No. 22 AWG copper conductor, PE jacket aerial cable in accordance with REA-PE-38.

b. The cable furnished for external telephone cables from the Maintenance Facility building to the passenger station communications room shall be a 25-pair No. 22 AWG copper conductor, PE jacket aerial cable in accordance with REA-PE-38.

27. Tower Allen Bradley

a. The cable furnished for control panel shall be a twisted pair No. 20 AWG, Rio Belden Blue Hose Cable direct burial.

28. Tower Panel

a. The cable furnished for installation between Kimball Relay House and Kimball Tower Control Panel will be a 12 strand Fiber Optic Cable.

29. Unknown Tower Cables

a. 2-1C#9 TW
b. 2-37C#14

2.06 OMITTED CAB SIGNAL RECEIVE POINT LOOP CABLE

PART 3: EXECUTION

3.01 CABLE INSTALLATION:

A. General

1. The installation of wire and cable shall conform to Part 10.4.1 of the AREMA Signal Manual, except as modified herein.
2. The Contractor shall give the Engineer 24 hours notice prior to installing cables.
3. The Contractor shall provide sufficient slack in cable conductors at all terminating posts to enable three re-terminations of the conductor due to broken eyelets without re-servicing or re-potheading the cable.
4. In certain types of installation, the cable cannot be constrained; therefore, ample cable slack shall be provided for additional flexibility due to vibration of such equipment.
5. Cables shall not be bent to a radius less than 10 times the diameter of the cable during installation or as finally installed.
6. All cable runs shall be continuous without splices between cable terminating locations.
7. Tags to identify cables shall be of plastic material. Tags shall be lettered to correspond

with the cable destination and number of conductors in the cable. The type of tag to be used shall be as described in the Miscellaneous Components and Products Section of these Specifications.

8. All cables shall be terminated in conductor order. Individual cable conductors shall be identified at each cable termination with plastic tags as specified in these Specifications. All spare conductors in each cable shall be terminated and identified.
9. All cable entrance openings in equipment enclosures and junction boxes shall be sealed with either a compression type fitting or pliable sealing compound after the cable is in place. Sealing compound shall be used to seal the area around cable where the cable emerges from the end of a conduit, pipe or duct bank. All spare and empty abandoned conduits shall be sealed or plugged in an approved manner.
10. Where cable transfers from trays or troughs to conduit the ends of the conduit shall be fitted with plastic end bells to prevent damage to the cable.
11. Wherever multiple conduction cables are terminated the outer sheath of the cable shall be carefully removed to the point of cable entrance. At the end of the cable sheath or covering, two layers of plastic electrical tape shall be applied.

B. Outdoor Locations Underground Installation (Omitted).

C. Outdoor Location Underground Duct Bank Installation

1. Each conduit to be used in conduit duct banks shall be blown or swabbed dry and rodded and mandrel led.
2. Cables shall be placed in the lowest available duct. All cables to be placed in one duct shall be installed simultaneously. Extreme care must be used in installing cables so as to avoid twisting, kinking, or in any way injuring the cable or its sheath.
3. In pulling cable, an approved wire cable grip extending not less than 18 inches back from the end of the cable shall be used and the clutch on the pulling device shall be set to slip at 50% of the weight per 1000 feet of the cable to be pulled. The equipment used for pulling cable shall be equipped with a dynamometer that shall indicate the pulling force in pounds.
4. Glycerized liquid lubricant or other approved lubricant shall be applied to the cable as approved by the Engineer when installing cables in ducts.
5. The ends of the cable shall be immediately sealed until such time as the terminating and protecting of the cable in the hand holes, tower, and house is affected.
6. All conduits entering hand holes or housings shall be filled with sealing compound.
7. When necessary, the Contractor shall pump water out of hand holes, cable pits, and pull chambers before installing any cables and he shall be responsible for maintaining hand holes and pull chambers in a dry condition while the cables are being pulled.
8. Cable installation in conduit shall not exceed 40% fill per conduit, unless otherwise allowed by the Engineer.
9. Cables installed in hand holes shall be properly constrained, fastened, and transitioned to proper area in accordance with the approved installation drawings.

D. Buried Installation

1. Installation in Trays or Troughs

   a. Cable installed in trays or troughs shall be laid therein and not pulled in place. Where the location of the tray does not allow laying of the cables, suitable rollers or other pulling devices designed for cable trays may be allowed with the approval of the Engineer at each location. Cables installed in trays and troughs shall have a minimum amount of crossover and shall not be pulled tightly around bends.

2. Installation in Conduit or Pipe

   a. Cables shall not cross one another when they are pulled into a conduit or pipe and

care shall be taken not to have the conductors pulled tight or kinked in conduit fittings or boxes. All cables to be installed in a conduit or pipe shall be pulled and installed simultaneously.

E. Aerial Cable Installation

1. Messenger brackets shall be provided to allow support of the messengers underneath platform. Additional brackets shall also be provided to allow the redirection of the messenger to clear platform supports, abutments, and other obstructions along the tunnel and structure. Bracket design shall allow a minimum clearance of two inches from the cables to the platform underside tunnel wall and structure at all points along the messenger. When fastened to walls, including transition walls into tunnel sections, messenger brackets shall be provided every 25 feet or less on tangent track and 12 ½ feet or less for curved areas or runs. When fastened to the elevated structure, brackets shall be provided every 50 feet or less for tangent runs of messenger, and every 25 feet or less for curved runs of messenger. Messenger brackets shall be provided for every platform support along the run and transition to side of wall at end of platform every 3 feet. (verify at Kimball) Additional brackets and supports shall be provided as needed to maintain clearance between the cables and other objects. Brackets shall be attached to platform supportswalls with epoxy type anchors. Brackets shall be securely attached to the structure with bolted connections. Welding to the structure will not be allowed. All bolt holes shall be drilled, and shall not be burned or punched through. All bracket support bolts shall be treated with Lock-Tite or approved equal after final installation to prevent loosening from vibration.
2. Messenger shall be installed loosely in the messenger clamps until dead-ended at both ends, after which all clamps shall be tightened to provide uniform tension in each span. Where sagging tension is applied from the ground by means of a coffing hoist or block and tackle hoist, the pulling point shall be located no less than 75 feet beyond the last pulley and in the direction of the line. Tensions during installation of the messenger shall be continuously checked by means of one or more dynamometers. The final tension shall not exceed 25% of its rated breaking strength at 60 degrees F after initial stretch and cable installation.
3. A cable bundle supported by a single messenger shall not exceed six inches in diameter. Where multiple cables are installed on one messenger, care shall be taken to prevent twisting or spiraling of the cables.
4. When installing cables on the messenger wire, they shall first be tied to the messenger with temporary marline or rope ties placed sufficiently close together to hold the cable without undue sagging or slack. The cables shall then be permanently tied to the messenger with cable straps placed on fifteen-inch centers. At points where the cables leave the suspension strand messenger to enter housings or conduit, the cables shall be securely fastened and anchored to the suspension strand messenger with sufficient wrappings of nylon filament rope to prevent the cables from slipping or sagging.
5. J-hooks shall be provided for cables with integrated messengers at each messenger clamp.
6. Care shall be taken in removing the insulation from integrated messenger cables at dead-ends and other locations. Insulation removal shall be kept at a minimum to prevent exposure of the messenger to the elements. Where the messenger is exposed, a weatherproof coating shall be applied, Scotchkote brand or approved equal.
7. Temporary Installation on Existing Messenger

   a. The Contractor shall temporarily support the existing cables from the J-hooks to prevent overloading the existing messengers where the loadings will not permit simultaneous installation of new and existing cables. The Contractor shall submit calculations of the proposed loadings where he proposes to use the existing messenger for support of both existing and new cables.

b. Any temporary support methods shall include provisions to prevent the cable from interfering with the train dynamic envelope

8. All cables in a multi-cable bundle shall be installed as parallel runs with no spiraling. All cable straps and lashings shall secure the entire bundle to the messenger or hanger. When cables are added to existing bundles, the existing straps shall be removed and new straps furnished and installed and the entire bundle shall be re-dressed. New cable straps shall be installed and furnished. Cable bundles and runs shall be secured at transition points when cable runs or portions of cable runs change direction or branch off.
9. Partially securing additional cables to existing bundles without re-securing and redressing the entire bundle is prohibited.
10. Cables routed to relay housings or rooms, junction boxes, relay cases or making vertical runs shall be secured with cable clamps properly sized that firmly support the cable. The use of one clamp to secure multiple cables shall not be permitted except as approved by the Engineer. The use of tie-wraps as permanent support or securing of cables is not permitted.
11. All cable straps and ties shall be furnished and installed new for new messenger runs as well as for securing cables to existing bundles.
12. Cables and cable bundles shall have supplemental wire or nylon lashings furnished and installed at each support bracket and mid span to secure the cable in the event of cable strap failure. Wire or nylon lashings shall also be furnished and installed to manage and secure transitions in any direction.
13. Cables and cable bundles shall be installed such that no contact will be made between the bundle, messenger or cable and any other fixed or hanging object other than hangers, clamps and fittings intended to secure those specific cables and runs. A minimum of two inches clearance shall be provided between cable bundles/messenger and any other object, structure, wall or equipment, taking into account wind loads, other objects or equipment moving, variations in cable sag due to temperature and tension changes. Where this clearance cannot be maintained by any other method, bracket or hanger, the installation shall be modified to secure and protect the cables from damage, subject to approval by the Engineer.
14. Communication Cables

a. Multi-pair communication cable shall be continuous, without splices, between termination locations. Termination locations shall be within communication junction boxes (CJB's), and signal instrument houses, as shown on the Contract Drawings. No terminations of any kind shall be acceptable at locations other than CJB's and signal instrument houses, except as may be approved by the Engineer.
b. The cable shall be split within each CJB such that the transmit and receive pairs (opposite sides of the screen) shall terminate on separate terminal blocks. The transmit and receive pairs shall be bundled separately and wound with metallic tape from the point at which the cable is split to a point as close to the terminal block as is practicable.
c. The shield of each communication cable shall be electrically continuous 27between terminations on terminal blocks. Each section of communications cable shall have its shield grounded at the terminal block location at one end of the cable section only. The shield shall be insulated from ground throughout the remainder of the section of cable. The communication cable shield shall be grounded with the use of tin plated brass shield connectors and #6 AWG insulated ground wire in a manner as recommended by the cable manufacturer. The ground wire shall be connected to the housing ground grid.
d. Pairs shall be maintained intact, and shall terminate in order following the color code. Cable pairs from different screens shall not occupy the same line terminal block.
e. Cables shall not be terminated or connected in any manner that may preclude their use in a future carrier system.

F. Special Protection

The Contractor shall provide appropriate special protection for cables in areas where the cables are unavoidably exposed to hazardous conditions such as vibration or sharp corners on equipment. The Contractor shall be responsible for replacing, at no additional cost to the Authority, any cable he has installed which is subsequently damaged prior to acceptance as a result of his failure to provide such special protection.

3.02 FIBER OPTIC SPLICE

A. Fiber optic splicing shall be performed in a clean dust-free environment. All outside plant splicing shall be performed in an Engineer approved splicing tent or splicing van.

1. All splices shall be tested for loss and reflection. Any splice that does not meet the performance specifications described herein shall be redone, at no additional cost to the Authority.
2. All fiber optic splices shall use the fusion process.

3.03 TESTS:

All installed external cable shall be field tested in accordance with requirements of the Signal Tests Section of these Specifications.

26 84 00 APPENDIX A

INSULATION FOR VITAL CIRCUIT SIGNAL CABLES
PHYSICAL AND ELECTRICAL CHARACTERISTICS

INSULATION	VALUES	GUARANTEED
1. Physical properties		
A. Original properties:		
Tensile Strength - minimum psi		1000
Tensile stress at 200% elongation - min. psi		600
Elongation at rupture - minimum percent		300
B. Properties after accelerated aging:		
C. Oxygen pressure test - 168 hours 176°F (80°C) -300 psi		
Tensile strength - minimum percent of original		90
Elongation, minimum percent of original		85
D. Air pressure heat test - 20 hours - 260°F (127°C) - 80 psi		
Tensile strength, min. percent of original		90
Elongation - min. percent of original		85
E. After air oven aging - 168 hours - 249.8°F (121°C)		
Tensile strength - min. percent of original		90
Elongation - min. percent of original		85
2. Insulation resistance constant:		
Megohms - 1000 ft. at 60°F (15.6°C) - minimum		35,000
3. Mechanical water absorption:		
7 days - 158°F (70° C) - mg/sq. in – maximum		8
4. Electrical stability in water on insulated conductors only:		
1000 cycles - 122°F (50°C)		
Dielectric constant 1day immersion - maximum		3.0
Increase in dielectric constant:		
1-14 days - percent maximum		1.0
7-14 days - percent maximum		0.5
Power Factor		
14 days maximum percent		1.0
5. Accelerated electric stability test in water on insulated conductors only:		
80 volts/mil measurement stress		
60 cycles - 194°F (90°C) Dielectric constant -		
1 day immersion – maximum		3.0

26 84 00 APPENDIX A (CONT.)

Increase in dielectric constant:	
1-14 days - percent max.	1.0
7-14 days - percent max.	0.5
1-90 days - percent max. (1)	1.0
Power Factor	
14 days - percent max.	1.0
90 days immersion - percent max. (1)	1.0

6. Accelerated insulation resistance stability test on insulated conductors only:

   90°C (194°F) megohms - 1000 ft.
   1 day immersion – minimum 1000
   90 days immersion – minimum 1000

7. Accelerated voltage stability:

   A single conductor #14 AWG or larger size with 80 mils or thicker insulation wall shall have at least 10 feet immersed in water at room temperature. The insulated conductor, without any covering over the insulation, shall be continuously energized as follows:

AC Voltage V/Mil	Time Mos.
325	2 or
280	3 or
240	4 or
200	6

8. Ozone resistant test:

   7 days at 250 ppm concentration — No cracks

26 84 00 APPENDIX B

POLYETHYLENE PHYSICAL CHARACTERISTICS
When tested with methods described in ICEA Pub. No. S-68-516-1996, the thermoplastic material shall have the following characteristics:

1. PHYSICAL PROPERTIES

A.	Original Properties	
	Tensile Strength, min., psi	1400
	Elongation at Rupture, min. percent	350
B.	After Over Age, 48 hrs. at 212°F	
	Tensile strength, percent of original, min.	85
	Elongation, percent of original, min.	85
C.	Oil Immersion Aging, 4 hrs. at 158°F, ASTM No. 2 Oil	
	Tensile strength, percent of original, min.	75
	Elongation, percent of original, min.	75
D.	Mechanical Water Absorption	
	7 days at 158°F, Mg/Sq. In., maximum	5
E.	Shrinkback, 24 hrs. at 212°F	
	Percent - minimum	5

2. COLD BEND, 1 hr. at -31°F, Bend 180° around Mandrel — No cracks

   Mandrel Size: 0-0.80, 8 x O.D. of cable
   0.80 and over, 10 x 0.D. of cable

3. HEAT DISTORTION, 1 hr. at 194°F

   Percent distortion - maximum — 25

4. ABSORPTION COEFFICIENT

   (Reciprocal function of light transmission corrected for thickness.) Minimum — 3200

5. ENVIRONMENTAL STRESS CRACKING

   Immerse in Igepal CO-630, 48 hrs. at 122°F — No cracks

6. IMPACT, 4 hrs. at -49°F

   Strike with 1" dia. steel rod on a flat surface with 3 ft/lb force.
   Visual Inspection — No cracks

NOTE: Above material shall also comply with ASTM D 1248, Type 1 Polyethylene.

26 84 00 APPENDIX C

NEOPRENE OR HYPALON-BASED COMPOUND
PHYSICAL CHARACTERISTICS

When tested with methods described in ICEA Pub. S-68-516, the thermosetting material shall have the following characteristics:

1. PHYSICAL PROPERTIES

   A. Original Properties

Tensile strength, min. psi.	1800
Tensile stress at 200% elongation, min. psi	500
Elongation, percent minimum	300
Set, percent minimum	15

   B. After Over Age, 7 days at 212°F

Tensile strength, percent of original, minimum	50
Elongation, percent of original, minimum	50

   C. Oil Immersion Aging, 18 hrs. at 249.8° F, ASTM No. 2 Oil

Tensile strength, percent of original, minimum	60
Elongation, percent of original, minimum	60

   D. Mechanical Water Absorption
   7 days at 158°F, Mg./Sq. In., maximum 35

2. COLD BEND, 24 hrs. at-31°F, Bent 180° around mandrel

Mandrel Size:0-0.80,8 x O.D. of cable	No cracks
0.80 and over, 10 x O.D. of cable	No cracks

3. VERTICAL FLAME TEST (S-19-81, Paragraph 6.19.6) Pass
4. OZONE RESISTANCE, 24 hrs. in 150 ppm Ozone No cracks
5. HEAT DISTORTION, 1 hr. In air oven at 249.8°F

Percent distortion - maximum	15

THERMAL-SET CLORINATED POLYETHYLENE -BASED COMPOUND
PHYSICAL CHARACTERISTICS

When tested with methods described in ICEA Pub. S-68-516, the thermosetting material shall have the following characteristics:

1. PHYSICAL PROPERTIES

   A. Original Properties

Tensile strength, min. psi.	2000
Elongation at rupture, percent minimum	300
Tensile strength at 200% elongation, min. psi	1400
Set, percent minimum	50

   B. Air Oven Test After Over Age, 7 days at 131°C

Tensile strength, percent of original, minimum	85
Elongation, percent of original, minimum	70

   C. Oil Immersion Aging, 18 hrs. at 121° C, ASTM No. 2 Oil

Tensile strength, percent of original, minimum	80
Elongation, percent of original, minimum	75

   D. Mechanical Water Absorption

7 days at 70°C, Mg./Sq. In., maximum	20

2. COLD BEND, 24 hrs. at-35°C, Bent 180° around mandrel

Mandrel Size: 0-0.80,8 x O.D. of cable	No cracks
0.80 and over, 10 x O.D. of cable	No cracks

3. VERTICAL FLAME TEST (IEEE 383) — No Propagation

   VW-1 Flame Test — Passes

4. OZONE RESISTANCE, 24 hrs. in 150 ppm Ozone — No cracks
5. HEAT DISTORTION, 1 hr. In air oven at 121°C

   Percent distortion – maximum — 15

6. TEAR STRENGTH - minimum — 35lbs/in. sq
7. OXYGEN INDEX, 5 Maximum - minimum — 30

NAME OF COMPANY

ENGINEERING REPORT

INTRODUCTION

Certain specifications call for rather specific qualification tests on the insulation. These tests Involve long term voltage aging, moisture resistance and thermal aging. _____

Insulation used in vital signal cable was tested according to these specifications.

Standard factory production cables were used as samples.

SUMMARY AND CONCLUSIONS

_____Insulation tested in accord with the procedures below meets

the requirements of the CTA specifications.

DETAILS

Thermal Aging - The 80 mil thick slab samples of the insulation shall be tested in a circulating air oven and shall have an elongation no less than 50% after a minimum aging time of 25 hours at 136°C and 100 hours at 121°C.

The insulation tested as above, gave the following results:

Elongation at Break - Initial	-	_____%
Elongation after 25 hrs. at 136°C	-	_____%
Elongation after 100 hrs. at 120°C	-	_____%

26 84 00 APPENDIX E (CONT.)

Engineering Report - Continued

Voltage Aging - The dielectric strength stability shall have been demonstrated by voltage aging, a test sample of a single conductor AWG 14 or larger size wire with 80-mil or thicker insulation, shielded with the shield grounded. The cable shall be tested in free air with a minimum of ten feet between terminals. One of the following voltage stresses shall have been applied to voltage age the sample.

Test Voltage 60-Hz AC Volts/Mils		Aging Time Duration
490	for	6 months, or
315	for	1 year, or
225	for	2 years, or
180	for	3 years, or
135	for	5 years

No insulation failure shall occur within the stress period.

The shielded _____insulation 80 mils thick on a _____tinned copper conductor of _____ length was placed in free air at room temperature for _____ months at a stress of _____ v/mil tie for a duration of _____. No failure occurred during the test period.

Moisture Resistance - A single conductor No. 14 AWG or larger size, with 80 mils or thicker insulation wall, shall have at least 10 feet immersed in water at room temperature. The insulated conductor without any coverings over the insulation shall be continuously energized as follows:

DC Voltage V/mil	Time
325	2 months, or
280	3 months, or
240	4 months, or
200	6 months

No insulation failure shall occur within the test period.

The bare_____insulation 80 mils thick on a _____tinned copper conductor of _____length was placed in tap water at room temperature for _____months at a stress of V/mil. No failure occurred during the test period.

QUALITY ASSURANCE PROGRAM

This statement will certify that _____

Name of Company

will manufacture and test the cable under the control of a quality assurance program which meets the requirements of Section 10CFR50, Appendix B, of the Federal Registrar._____

Inquiry No.

Notary

Cable Company Representative

END OF SECTION

SECTION 34 42 41

INTERNAL WIRE AND CABLE

PART 1: GENERAL

1.01 SUMMARY

A. The work to be done under this Section consists of furnishing and installing wire and cable in, relay houses, control machines, panels, and in enclosures where it will not be exposed to the elements. All intra-rack and rack-to-rack wire and cable shall conform to the requirements of this Section.

B. Individual conductors, solid conductor for wire wrap application, and multiconductor cables covered by this Section shall be copper conductor with ETFE insulation in accordance with AREMA Parts 10.3.14. and 10.3.24, except as modified within this Section.

C. Internal plug connectors shall be as specified within the Plug Connectors Section of these Specifications.

D. Where there is a difference between the requirements of this Specification and other specifications referenced herein, the requirements of this Specification shall govern.

E. Internal wiring of signal heads, train stops, route selectors, switch machines, and other external wayside devices shall be EPR insulated stranded copper wire as specified herein.

1.02 QUALITY ASSURANCE

A. The Quality Assurance provisions of the applicable AREMA, NEMA, NFPA, UL, and ASTM Specifications shall be followed in the manufacture of wire covered by this Section. The Contractor shall be responsible for witnessing and reporting the results of any and all required qualification tests. One-half of each qualification sample shall be retained for the Contractor's evaluation and the remaining one-half shall be forwarded to the Engineer for final approval. The Contractor shall be responsible for monitoring the manufacturer's conformance to the quality assurance requirements and the Engineer reserves the right to audit conformance in accordance with the Special Provisions.

B. All other work covered by this Section shall be accomplished in compliance with a Quality Assurance Program that meets the intent of the ASQC Standard CI-1985 General Requirements for a Quality Program.

C. The ETFE wire and cable specified within this section shall be designed for 150 degree Centigrade continuous operating temperature in accordance with AREMA Part 10.3.24.

D. Routine Tests: ETFE individual conductors, wire wrap conductors, and multiconductor cables shall be tested per the requirements specified within AREMA Part 10.3.14, Paragraph I. Multiconductor cables shall also be immersion tested in accordance with Alternative Recommendation Section R-I-1-a of AREMA Part 10.3.14. Routine tests shall be performed for all delivered wire and cable. Routine tests shall include:

1. Individual Conductors
   a. Non-immersion voltage tests
   b. Immersion voltage tests
   c. Insulation strip force tests
   d. Insulation shrinkage tests
2. Completed cables
   a. Voltage tests

b. Shield tests (where shields are required)
c. Jacket shrinkage tests

E. Material Tests: Samples of ETFE insulating and jacketing materials shall be tested in accordance with AREMA Part 10.3.24. Certified test reports shall be provided for each type of ETFE material (Type I and Type II per ASTM D3159-91a) utilized for the conductor insulations and jackets. Material tests shall be performed for the original Certification, whenever materials or production practices are altered, and, as a minimum, every five years thereafter. Material tests shall include:

1. Flame, smoke, smoke toxicity tests
2. Corrosivity tests
3. Tensile strength and elongation tests
4. Aging tests
5. Cold bend tests
6. Heat shock tests
7. Heat distortion tests
8. Electrical tests

1.03 SUBMITTALS

A. The Contractor shall submit the following to the Engineer for approval:

1. Complete technical data, including crossections, wire sizes, insulation thicknesses, and materials, verifying that the internal wire and cable which the Contractor proposes to furnish in compliance with the requirements of this Section.
2. Qualification samples.
3. Reports of all qualification tests witnessed by the Contractor.
4. Certified test reports (routine tests), including test description, acceptable range of results, and actual test results, of all tests conducted on finished wires and cables as described herein. Routine tests shall be submitted for each production lot for all wires and cables.
5. Certified tests reports (material tests) of all insulation material tests as described herein. Material test results, even if previously submitted and approved by the Authority, shall be resubmitted and included within each separate wire and cable submittal made. Test results shall include test description, acceptable range of results, and actual test results.

PART 2: PRODUCTS

2.01 STRANDED WIRE FOR GENERAL USE

A. Stranded wire, including individual conductors of multiconductor cables covered by this Section, shall be in accordance with AREMA Part 10.3.14, Paragraph C. Stranding shall be concentric, bunched, roped, or unilay construction in accordance with one of the alternatives as described in Paragraph C of AREMA Part 10.3.14.

B. Minimum Rated Conductor Ampacities

1. Conductors shall be rated in accordance with the following:

Wire Size (AWG)	Minimum Rated Conductor Ampacity (Amperes)
20	6.5
18	19
16	24
14	34
12	43
10	55
8	76
6	96
4	143
2	160
1	186
1/0	215
2/0	251
3/0	288
4/0	332
500 kcmil	580

2. Conductor sizing shall be determined by the Contractor. Each conductor shall be sized for a minimum of 150% of the load requirements, but shall be no smaller than size 16 AWG, stranded, with the exception of control panel internal wiring, which shall be no smaller than No. 20 AWG.

C. Conductor insulation shall be ethylene tetrafluoroethylene copolymer (ETFE) insulation in accordance with AREMA Parts 10.3.14 and 10.3.24, and as specified within this Section. No jacket shall be required for individual conductors.

D. Individual conductors and cables for circuits containing 0 to 480 volts nominal shall be rated for 600 volts ac minimum, with minimum insulation thicknesses in accordance with AREMA Part 10.3.14, Table 3. Individual conductors and cables for circuits containing 481 volts or above shall be in accordance with the External Cable Section of these Specifications.

E. Identification

1. Each single stranded conductor shall be marked with the following information:

   a. Manufacturer's name
   b. Year in which wire is manufactured
   c. Size of conductor
   d. Type of insulation.
   e. Voltage rating

2. The identifying markings shall be permanent and shall be easily readable and understandable. Printing intervals for the markings shall not be greater than 24 inches. Identifying markings for each wire shall begin at terminal.
3. Stranded wires used in multiconductor cable shall be numbered as described within this Section.

2.02 INTERNAL MULTICONDUCTOR CABLE

A. Conductors and conductor insulation for multiconductor cables shall be as specified above for Stranded Wire for General Use, with the exception of color coding and wire identification. Individual conductors for multiconductor cables shall be color coded in accordance with Table 5 of AREMA Part 10.3.14. Conductor identification (manufacturer, year, etc.) shall be shown on the cable jacket as described herein, and will not be required on each conductor of the multiconductor cable.

B. Cables shall be made by assembling the individual or twisted pairs of insulated wires into a tight, cylindrical form. Individual or twisted pairs shall be assembled helically and with adjacent layers wound in opposite directions. Shielding, when required, shall be a metal laminate tape in accordance with AREMA Part 10.3.14.

C. The makeup of multiconductor cables specified by this Section shall not exceed thirty conductors for vital circuits, or fifty conductors for non-vital circuits.

D. Multiconductor cables shall have a minimum of 10 percent spare conductors. Reduction in the number of spares is not allowed unless otherwise directed by the Engineer in writing. All spare conductors are to be terminated unless otherwise directed by the Engineer in writing or otherwise specified herein.

E. All multiconductor cables shall have ETFE cable jackets in accordance with AREMA Part 10.3.24, with jacket thicknesses in accordance with Table 6 of AREMA Part 10.3.14.

F. The cable outer sheath shall be marked with the following information repeated at intervals no greater than 36 inches:

1. Manufacturer's name
2. Year of cable manufacture
3. Number and size of conductors
4. Type of insulation in wires
5. Type of outer sheath insulation
6. Voltage rating.
7. The identifying markings shall be permanent and shall be easily readable and understandable.

2.03 SOLID WIRE FOR WIRE WRAP APPLICATION

A. General:

1. Solid wire used in wire wrap application under this Contract shall be in accordance with AREMA Part 10.3.14 for Type I conductors.
2. Insulation for solid wire for wire wrap application shall be ETFE in accordance with AREMA Part 10.3.24 and Table 1 of AREMA Part 10.3.14.

2.04 INTERNAL WIRE FOR WAYSIDE DEVICES

A. Internal wiring for signal heads, switch machines, route selectors, train stops and other wayside devices shall be copper stranded wire in accordance with AREMA 10.3.15.D.

B. Insulation shall be ethylene propylene rubber (EPR) in accordance with AREMA Part 10.3.19 with insulation thicknesses as specified in AREMA 10.3.15.E for Type I, 600 volt insulation.

PART 3: EXECUTION

3.01 INSTALLATION

A. General: Internal wire and cable shall be installed in accordance with the applicable requirements of AREMA Signal Manual Part 10.4.1 and as specified herein.

1. Wires and cables shall be installed in a neat, workmanlike manner. Cables in trays or in troughs shall be laid therein and not pulled into same. Cables shall be installed with a minimum amount of cross-over in the trays and troughs and shall not be pulled tightly around bends. Sufficient slack shall remain within the wires and cables at

transitions and all other locations to prevent damage to the wires and cables over time due to abrasion. All exposed wires and cables entering or leaving equipment racks or housings shall be protected from abrasion by sharp metallic edges.

2. Nylon straps shall be provided and installed for bundling and cabling of conductors where two or more single conductors are exposed in internal rack bundles, cable trays or cable troughs, or whenever wires are to be bundled. Tape shall not be used for this purpose. Straps shall be installed at intervals not greater than five feet along the cable run. Wires of multiconductor cables exposed by the stripping of the cable jacket for terminations shall be trained in a neat, workmanlike manner and tied approximately every three inches with nylon straps.
3. There shall be no point-to-point redundancy of wires for increased current capacity.
4. Single conductor No. 14 stranded wire shall be used for interconnecting signal junction boxes and lamp compartments and other miscellaneous equipment.
5. Sufficient slack in the wires and cables shall be provided to permit wire ends to be easily removed from the device or terminal and reterminated.

B. Module Wiring:

1. Unless otherwise approved by the Engineer in writing, all module and display panel wiring shall be accomplished with solderless connections using solid wire for wire wrap connections, and stranded wire for crimped connections as specified herein. Minimum wire size shall be No. 20 AWG for stranded wire and No. 24 AWG for solid wire.

C. Rack Wiring:

1. Unless otherwise directed by the Engineer in writing, all vital and non-vital rack wiring shall be accomplished with approved solderless connections. Wire for rack wiring shall be stranded wire as specified herein, minimum size No. 16 AWG, or multiconductor cables as specified herein.
2. Rack wiring shall be neatly tied into compact bundles. The main bundles and branches shall be secured to the racks in a manner which shall preclude physical damage due to pressure of abrasion and prevent the wire weight from being supported by the wire terminations, connections, or plug connection. The arrangement of the wire bundles and cables shall be such that they do not interfere with visual inspecting, troubleshooting, or repair of the rack-mounted equipment.

D. Rack-to-Rack Wiring: All rack-to-rack wiring shall be routed via the overhead cable trays with one foot of slack between the cable tray and each rack to which the cable or wire is connected. Conductors shall be size 16 AWG or larger.

1. Vital Racks: Unless otherwise approved by the Engineer in writing, all rack-to-rack wiring for factory wired housings and relay rooms shall be accomplished using single conductors tied into bundles to form unjacketed multiconductor cables. Unjacketed multiconductor cables shall have a maximum tie spacing of six inches.
2. Non-Vital Racks: Unless otherwise approved in writing by the Engineer, all rack-to-rack wiring for non-vital racks shall be accomplished using single conductors, tied into bundles, with solderless terminals as specified herein. Non-vital panels within the relay rooms and towers may have a plug connector panel to terminate all wiring from the rack. Non-vital racks within the relay houses shall be wired point to point without the use of plug connectors.
3. Non-Vital Racks to Vital Racks: Unless otherwise approved in writing by the Engineer, all wiring between non-vital racks and vital racks shall consist of single conductors, tied into bundles, between the non-vital and the vital rack connection points. Wiring between relay room and tower racks may have a plug connector panel to terminate the wiring between racks. Racks within relay houses shall be wired point to point without the use of plug connectors. These individual conductors shall have a maximum tie spacing of six inches.

E. Rack To Local Control Panel:

1. Made-up cables and multi-conductor cables for the Local Control Panel shall be installed from the vital and non-vital instrument racks to solder-less terminals installed on the Local Control Panel. The made up cables shall consist of single conductors, No. 16 AWG stranded or larger, with bundle ties spaced a maximum of six inches. Panduit type raceways may be used in lieu of bundling the cables.

F. Control Panel Wiring:

1. Unless otherwise approved in writing by the Engineer, all control panel wiring shall be accomplished using single conductor wires and solderless terminals as specified herein. The wires shall be size 20 AWG or larger.

G. Entrance to Instrument Rack Wiring:

1. Wiring from entrance racks to instrument racks shall be accomplished using stranded wire, as specified herein, minimum size No. 16 AWG, as approved by the Engineer.

H. High Voltage Wiring:

1. Internal wire used in circuits directly connected to the rails and internal wire used in circuits which operate at voltages in excess of 480 volts shall meet the requirements of External Cable Section of these Specifications.

I. Energy Distribution:

1. Unless otherwise approved by the Engineer in writing, all wiring for energy distribution shall be accomplished using single conductor stranded wire as specified herein. Rack wiring shall be accomplished with solderless connections using stranded wire, minimum size No. 10 AWG. Rack-to-rack wiring shall be accomplished with solderless connections using stranded wire, minimum size No. 10 AWG.

J. Energy distribution wires shall not be run through plug couplers.

1. All internal wiring shall be identified and tagged in accordance with the Miscellaneous Components Section of these Specifications.

3.02 TESTS

A. Internal wire and cable shall be tested as specified herein and in accordance with the requirements of in the Testing Section of these Specifications.

END OF SECTION

SECTION 34 42 76

GROUNDING OF EQUIPMENT

PART 1: GENERAL

1.01 SUMMARY

A. The work to be performed under this Section consists of furnishing and installing a grounding system for wayside signals, train stops, and other signal apparatus including cases and junction boxes, as hereinafter specified or shown on the Contract Drawings.
B. The grounding system shall preclude any closed loop grounding arrangement.
C. Ground connection to the neutral conductors of the power company or AC signal supply system shall not be permitted. Ground connections to the rails or neutrals of impedance bonds is not allowed. The Engineer will not approve this type of connection.
D. Grounding shall conform to National Electrical Code unless otherwise stated herein or shown on the Contract Drawings.

1.02 QUALITY ASSURANCE:

A. All grounding systems furnished and installed as herein specified shall be inspected and any deficiencies noted shall be corrected. The inspection shall be conducted in conformance with the requirements of the Contractor's Installation Inspection Procedure as approved by the Engineer.
B. The final tests of the grounding system shall be in conformance with the requirements of this Specification.

1.03 SUBMITTALS:

A. The Contractor shall submit the following to the Engineer for approval:
   1. Circuit and schematic drawings showing design details of relay house, relay rooms, towers, wayside equipment, and case grounding.
   2. An Installation Inspection Procedure for grounding of all equipment.

PART 2: PRODUCTS

2.01 MATERIALS FOR WAYSIDE HOUSINGS AND EQUIPMENT:

A. At-Grade Locations
   1. Ground rods shall be copper-clad steel, non-rusting, sectional type as manufactured by Copperweld Corporation, or approved equal. The rod shall be at least eight feet in length and at least five-eighths inch diameter.
   2. Ground rod clamps shall be made of a cast bronze clamp body with non-ferrous set screws as manufactured by Copperweld Corporation or an approved equal.
   3. Internal ground wire, from the equipment to the ground bus, shall be insulated No. 6 or 10 AWG stranded copper wire, as specified within the detail sections of the Specification. Insulated ground wire shall be colored green.

B. Elevated Structure Locations
   1. Connections to grounded steel structures shall be welded.
   2. Ground wire shall be solid copper, No. 6 AWG minimum, insulated in accordance with ICEA Publication S-19-81. Insulation color shall be green.

C. Internal ground wire, from the equipment to the ground bus shall be insulated No. 6 or 10

AWG stranded copper wire, as specified within the Internal Wire and Cable Section of the Specification. Insulated ground wire shall be colored green.

D. A grounding bus of nickel-plated hard drawn pure copper shall be provided in each relay house, relay room, tower, and wayside case. The minimum dimensions of this bus shall be eight inches by eight inches by one-half inch thick. A minimum of twelve, three-eighths inch holes shall be drilled and tapped in the bus and twelve, three-eighths inch by one-half inch long hex head nickel plated bronze studs with one washer each shall be installed.

E. Lugs for attachment of the ground wire to the equipment shall be in accordance with the Miscellaneous Components and Products Section of these Specifications. Bolts for attachment to the equipment shall be bronze.

PART 3: EXECUTION

3.01 EQUIPMENT GROUNDING:

A. Control panel shall be grounded with a separate insulated No. 6 AWG solid soft drawn copper wire connected to the prime ground bus.

B. Each instrument rack and entrance rack in the relay houses, rooms, and towers shall be grounded to the prime ground bus. Each rack shall be connected to a grounding bus bar by means of a copper strap. Grounding studs shall be provided on both the grounding bus bar and each rack to allow for easy individual disconnection of any rack from the grounding system. Each grounding bus bar shall be directly connected to the prime ground bus by means of No. 6 AWG copper connector without any intermediate termination.

C. A prime ground bus bar, equipped with sufficient facilities to make all the grounding connections specified, shall be furnished and installed in each relay house, relay room, tower, and relay case. The prime ground bus bar shall be approximately one foot long and shall be mounted on insulating stand-offs on a wall of the house or room approximately four feet above the floor. The relay case prime ground shall be located adjacent to the cable termination area of the case. Where existing electrical equipment rooms contain a prime ground bus, the Contractor shall connect the signal prime ground bus bar by means of a No. 6 insulated wire between the bus bar and the electrical equipment room prime ground. The Contractor shall install all necessary conduit, for protection of the No. 6 ground connection, between the two buses.

D. The grounding bus bars shall be mechanically and electrically attached to all cable trays within the houses and rooms. The bars as installed shall be free from sharp edges. The grounding bars shall be connected to the prime ground bus bar with a No. 6 AWG wire.

E. External metallic equipment located on the elevated structure shall be electrically bonded to the elevated structure with an insulated ground wire, terminated with a lug and bolt to the equipment, and arc welded to the structure. The ground wire shall be installed in a FRE conduit between the equipment and the structure attachment point. Prior to welding to the rail or the structure, the surface where the bond is to be applied shall be ground clean with a reinforced grinding wheel to prevent any foreign materials such as scale, grease, rust, and paint, from being fused into the weld. At an ambient temperature of 30 degrees F or less, the surface shall be heated with a flame heat source to a temperature between 60 and 100 degrees. Welds shall be made in one continuous pass with voltage settings of 22 to 24 volts and 170 to 200 amps for fast moving single pass flat welds. After the connection has been tested, the area of the structure shall be re-primed and repainted in accordance with Steel Structures Painting Council PS-10.

F. External metallic equipment located within the ballasted area shall be grounded with a ground rod, clamp, lug, bolt, and ground wire.

G. Ground rods shall be driven to a minimum depth of eight feet. Rod ends shall be protected as they are being driven to allow attachment of additional sections.

H. Ground rods shall be tested after installation by the fall of potential method. If the resistance to ground is greater than fifteen ohms, additional sections shall be added until

the resistance is fifteen ohms or less. If a fifteen-Ohm resistance cannot be achieved after a total of three sections have been used, the Contractor shall notify the Engineer.

I. Each location shall be provided with two independent ground points for use with ground detectors.

END OF SECTION

SPECIAL PROVISION
FOR
FLOW METER SYSTEM

The work shall consist of the furnishing and installation of a complete and permanent velocity/area flow meter system to monitor and measure sewer flow in the storm water system. The work shall include the installation of a pad mounted Control Cabinet Enclosure/Traffic Box Enclosure (TBE) to house the Flo-Station Monitor, utility power, control and communications equipment and with attached flexible cable protector and cabinet to house the uninterruptible power supply (UPS). The work shall also include the installation of the Flo-Dar sensor within a proposed 5'-0" Dia. Type A storm sewer manhole, installation of Flo-Dar cable and Rigid Galvanized Steel Conduit installed in open cut trench to connect the Flo-Dar sensor with the Flo-Station, and all other incidental work to install a complete and operational flow meter system. The work shall be performed as shown on the Drawings in accordance with the Standard Specifications, except as modified herein by this Special Provision or as otherwise shown on the Drawings.

Flow Meter Equipment

The new flow meter equipment shall be the Marsh-McBirney Flo-Dar Sensor with Flo-Station Radar Velocity/Area Flow Meter as provided by ELAN Technologies, or approved equal. To be considered a proposed equal, Contractor must submit product data to the CCHD and Village of Skokie for approval at the Pre Construction meeting. The flow meter equipment shall be the most recent model and software version supplied by the manufacturer and shall be compatible with the existing equipment previously installed within the Village. The following equipment shall be provided and installed in accordance with the manufacturer's instructions:

1. Flo-Station Model No. 1204-2-0-0 with display, four 4-20ma outputs, Flo-ware software and communication cable, 120 VAC, SVS. The Flo-Station shall be installed in proposed Traffic Box Enclosure (TBE).
2. The Flo-Dar Sensor Model No. 4000-9-0-0 for a standard range installation with no surcharge option and 150-foot cable. The Contractor shall verify and coordinate the sensor cable length required based on final facility locations. The Contractor shall install the sensor cable in conduit installed in open cut trench as shown and specified on the Drawings including all required backfill.
3. The Flow-Dar Sensor shall be installed in the storm manhole as shown on the Drawings using the permanent mount sensor frame and all mounting hardware as supplied by the manufacturer.
4. The Flo-Dar Sensor optional equipment shall include grounding straps, and shall be installed with a wire safety cable connecting the sensor with an eyebolt that is secured into the top of the manhole riser.

Control Cabinet Enclosure

The Control Cabinet Enclosure/TBE shall meet the requirements of Sections 804, 810, 817, 825 and 878 of the Standard Specifications except as modified herein.

1. The cabinet shall be furnished at the location shown on the Drawings and shall be equipment pad mounted self-supporting, front accessible, 1/8" thick unpainted aluminum alloy 5052-H32, designed for outdoor service and provided with expanded metal cable protector. All hardware and hinges shall be stainless steel.
2. The cabinet shall be lockable by means of a Corbin Type 2 key, be NEMA 3R rated, suitably ventilated, of adequate size, and shall be provided to house electrical equipment and devices as shown on the Drawings and as specified herein. All electrical components and devices shall be mounted on the inside of the cabinet. The Contractor shall coordinate overall size as required and as shown on the Drawings. The cabinet shall be delivered to the site ready for installation, to the extent possible, with interior electrical components and devices already mounted.
3. The Contractor shall employ the use of an industrial control panel manufacturer to install all equipment and wire cabinet according to plans and specifications prior to delivery to job site. Contractor shall provide shop drawings of proposed cabinet and equipment layout for review prior to building cabinet.
4. The cabinet shall be provided with interior lighting, and arranged to accommodate electric service from the utility and main breaker as shown on the Drawings. The Contractor shall coordinate with ComEd and provide, 120V, 1 phase, 2 wire non-metered electric service and all conduit and wire required to provide power to the electrical components and devices.
5. The cabinet shall be arranged for mounting on a reinforced concrete equipment pad. Concrete for the equipment pad shall be in accordance with the applicable requirements shown on the Drawings. The pad shall be arranged for electrical conduit entry to the cabinet and flexible cable protector as shown on the Drawings.

Uninterruptible Power Supply (UPS)

The furnishing and installation of this item shall meet the requirements of Section 862 and 1074.04 of the Supplemental Specifications and Recurring Special Provisions, except as follows:

The UPS shall be a Tech Power Developments, Inc. DBL MX Series and have the power capacity to provide normal electric service to the flow meter control cabinet and equipment for a minimum of six hours.

The UPS shall additionally include, but not be limited to, a battery cabinet. The UPS shall provide reliable emergency power to the flow meter cabinet in the event of a power failure or interruption.

Installation: The UPS cabinet shall be installed as an integral part of the controller cabinet foundation and also be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet and as shown on the plans.

Material: The UPS shall be line interactive and provide voltage regulation and power conditioning when utilizing utility power. The Contractor shall confirm the size and rating of UPS to allow for the flow meter and control cabinet to operate as follows. The UPS shall be sized appropriately for the station's normal operation and connected load, plus 20 percent (20%). The total connected load shall not exceed the published ratings for the UPS. The UPS shall provide a minimum of six (6) hours of normal operation run-time (minimum 1400 W/2000 VA active output capacity, with 90 percent minimum inverter efficiency).

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact.

The UPS shall be compatible for use with all proposed equipment installed in the cabinet and all components for full time operation.

When the cabinet is in battery backup mode, the UPS shall bypass the electric heater, ventilation fans and any other devices directed by the Engineer.

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

The battery cabinet shall have provisions for an external generator connection.

The UPS shall include a trip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.

The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate (Hubbell model HBL4716C or approved equal). Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.

Battery System: All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the cabinet for a minimum of six hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.

The warranty for an uninterruptible power supply (UPS) shall cover a minimum of two years from date the equipment is placed in operation; however, the batteries of the UPS shall be warranted for full replacement for a minimum of five years from the date the traffic signal and UPS are placed into service.

Flexible Cable Protector

The Flexible Cable Protector shall be a 14 Ga., Type 304 flattened stainless steel expanded metal with diamond pattern and 75% open air, hinged to enclose flow sensor cable. The cable protector shall be 36" minimum above top of conduit to the bottom of the proposed NEMA 3R cable termination/entrance enclosure. The size of the cable protector shall match the width of the proposed TBE. The sensor cable shall be supported by "Kellams" type cord grips at the entrance to the NEMA 3R junction box and TBE. Ends of conduits shall be sealed by plastic bushing and duct sealing compound. See details in the plans.

Provide the following equipment in and attached to the Control Cabinet and related equipment as shown on the Drawings;

1. Main circuit breaker.
2. Branch circuit breakers.
3. 120 VAC surge protector.
4. Flo-Station monitor.
5. UPS unit and cabinet.
6. RTU unit with low profile antenna and cable.
7. Interior lighting with door mounted light switch.
8. GFI duplex outlets.
9. Two single outlets, one for UPS unit and one for RTU unit.
10. Round axial type fans rated for 230 cfm, 120V AC, with wire guard for cooling intake and exhaust controlled by thermostat and humidistat.
11. Cabinet heater.
12. Electrical conduits for ComEd utility power, grounding, Flo-Dar Sensor cable and one spare.

13. Flexible Cable Protector Enclosure.

System Installation and Training

As required by the County, the Contractor shall coordinate with the supplier of the flow meter system to supervise the Flo-Dar sensor installation, and the calibration and testing of the flow meter system and computer equipment. The Village currently has the Datavision software, as provided by ELAN Technologies, installed on the Village computer system. The Contractor/Supplier will be required to configure the current software and cellular network to download the monitoring data from the proposed new Crawford flow metering equipment. The Contractor shall also coordinate with the supplier in regards to the training of County/Village personnel that may be required in the set up, operation and maintenance of the proposed new flow meter system.

Storm Sewer Manhole, Type A, 5'-0" Dia. and Frame and Grate

As required by the County, the Contractor shall pay for and install the Proposed Manhole, Type A, 5'-0" Dia along with the proposed frame and grate. This manhole shall be in accordance with Cook County Highway Department Standards and details as shown in the plans and IDOT SSRBC section 602 and 604 and Highway Standards 602401-03 and 604001-03

Warranty, Service and Support

The supplier shall warrant and provide service and support for a minimum of one year. Ongoing software support by the supplier shall include software updates of the Flo-Dar sensor, Flo-Station and Floware software in the cabinet interface unit, and supervisor computer applications. These updates shall be provided free of charge during the warranty period. The supplier shall maintain a program for technical support and software updates following expiration of the warranty period. This program shall be available to the maintenance agency in the form of a separate agreement for continuing support.

Method of Measurement and Basis of Payment

This item will be paid for at the contract lump sum price for FLOW METER SYSTEM which price shall be payment in full for furnishing, installing, testing and all incidentals necessary to place the Flo-Station radar velocity/area flow meter system into proper operation as specified herein and as shown on the Drawings. Payment shall include the following but not be limited to all required Storm Sewer Manhole Type A, Manhole Frame and Grate, As required by the County, the Contractor shall coordinate with the supplier of the flow meter system to supervise the Flo-Dar sensor installation, and the calibration and testing of the flow meter system and computer equipment. The Village currently has the Datavision software, as provided by ELAN Technologies, installed on the Village computer system. The Contractor/Supplier will be required to configure the current software and cellular network to download the monitoring data from the proposed new Crawford flow metering equipment. The Contractor shall also coordinate with the supplier in regards to the training of County/Village personnel that may be

required in the set up, operation and maintenance of the proposed new flow meter system. Conduit and cable, electric service installation and Com Ed coordination, Traffic Box Enclosure with power and control equipment, Flexible Cable protector, UPS, cabinet and Batteries, supplier inspection, training, warranty and ongoing service and support, and shall also include trench backfill and restoration of all surfaces and all other equipment and Materials necessary to provide a complete and operational Flow Meter System including all areas disturbed by construction activities with the exception of the roadway pavement resurfacing.

SPECIAL PROVISIONS

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SPECIAL PROVISIONS

1. MAINTENANCE OF LIGHTING SYSTEM COMPLETE

This item shall consist of maintaining the existing lighting systems that has been designated to remain in operation while the proposed work is constructed, in accordance with Section 801 of the Standard Specifications with the following additions:

The energy charges for the operation of the lighting systems will be paid for by the Department or the local agency.

Prior to beginning construction the contractor shall conduct an inspection of the lighting systems with a representative of the agency responsible for the maintenance. The inspection shall include all lighting systems which may be affected by the work. The inspection shall reveal all defects in the lighting system. In the case that the Contractor fails to contact the lighting maintaining agency, the Contractor shall be held responsible for all lighting items remaining defective at the completion of the construction.

The Contractor shall become responsible for the maintenance of the existing lighting system at a date mutually agreed upon between the Contractor and the lighting maintaining agency representative, but no later then the beginning of construction by the contractor. The Contractor's lighting maintenance shall cease upon the issuance of a Lighting Acceptance Notice by the Engineer.

MAINTENANCE OF LIGHTING SYSTEMS

Existing lighting systems. Existing lighting systems shall be defined as any lighting system or part of a lighting system in service prior to this contract. The contract drawings indicate the general extent of any existing lighting, but whether indicated or not, it remains the Contractor's responsibility to ascertain the extent of effort required for compliance with these specifications and failure to do so will not be justification for extra payment or reduced responsibilities.

Proposed Lighting Systems. Proposed lighting systems shall be defined as any lighting system or part of a lighting system which is to be constructed under this contract.

The Contractor shall be fully responsible for maintenance of all items installed under this contract. Maintenance shall include, but not be limited to, any equipment failures or malfunctions as well as equipment damage either by the motoring public, Contractor operations, or other means. The potential cost of replacing or repairing any malfunctioning or damaged equipment shall be included in the bid price of this item and will not be paid for separately.

LIGHTING SYSTEM MAINTENANCE OPERATIONS

General. The Contractor's responsibility shall include all applicable responsibilities of the Electrical Maintenance Contract, State of Illinois, Department of Transportation, Division of Highways, and District One. These responsibilities shall include the maintenance of lighting units (including sign lighting), cable runs and lighting controls. In the case of a pole knockdown or sign light damage caused by normal vehicular traffic, the Contractor shall promptly clear the lighting unit and circuit discontinuity and restore the system to service.

Responsibilities shall also include weekly night-time patrol of the lighting system, with patrol

reports filed immediately with the Engineer and with deficiencies corrected within 24 hours of the patrol. Patrol reports shall be presented on standard forms as designated by the Engineer. Uncorrected deficiencies may be designated by the Engineer as necessitating emergency repairs as described elsewhere herein.

The following chart lists the maximum response, service restoration, and permanent repair time the Contractor will be allowed to perform corrective action on specific lighting system equipment.

INCIDENT OR PROBLEM	SERVICE RESPONSE TIME	SERVICE RESTORATION TIME	PERMANENT REPAIR TIME
Control cabinet out	1 hour	4 hours	7 Calendar days
Hanging mast arm	1 hour to clear	na	7 Calendar days
Radio problem	1 hour	4 hours	7 Calendar days
Motorist caused damage or leaning light pole 10 degrees or more	1 hour to clear	4 hours	7 Calendar days
Circuit out – Needs to reset breaker	1 hour	4 hours	na
Circuit out – Cable trouble	1 hour	24 hours	21 Calendar days
Outage of 3 or more successive lights	1 hour	4 hours	na
Outage of 75% of lights on one tower	1 hour	4 hours	na
Outage of light nearest RR crossing approach, Islands and gores	1 hour	4 hours	na
Outage (single or multiple) found on night outage survey or reported to EMC	na	na	7 Calendar days
Navigation light outage	na	na	24 hours

- Service Response Time -- amount of time from the initial notification to the Contractor until a patrolman physically arrives at the location.

- Service Restoration Time – amount of time from the initial notification to the Contractor until the time the system is fully operational again (In cases of motorist caused damage the undamaged portions of the system are operational.)

- Permanent Repair Time – amount of time from initial notification to the Contractor until the time permanent repairs are made if the Contractor was required to make temporary repairs to meet the service restoration requirement.

Failure to provide this service will result in liquidated damages of $500 per day per occurrence. In addition, the Local Agency reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of $500 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. Repeated failures and/or a gross failure of maintenance shall result in the Electrical Maintenance Contractor being directed to correct all deficiencies and the resulting costs deducted from any monies owed the contractor.

Damage caused by the Contractor's operations shall be repaired at no additional cost to the Contract.

Operation of Lighting. The lighting shall be operational every night, dusk to dawn. Duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously. Lighting systems shall not be kept in operation during long daytime periods. The contractor shall demonstrate to the satisfaction of the Engineer that the lighting system is fully operational prior to submitting a pay request. Failure to do so will be grounds for denying the pay request.

Basis of Payment. This work shall be paid for at the contract lump sum price for: MAINTENANCE OF LIGHTING SYSTEM COMPLETE, according to the following schedule:

(a) Initial Payment. Upon transfer of maintenance responsibility to the Contractor, 25 percent of the pay item will be paid.

(b) Final Payment. Upon issuance of a Lighting Acceptance Notice by the Engineer, 75 percent of the pay item will be paid.

Pay item price includes the cost of all material, equipment, and labor necessary to perform all the work required to maintain the lighting systems.

2. GENERAL ELECTRICAL REQUIREMENTS

Add the following to Article 801 of the Standard Specifications:

"Maintenance transfer and Preconstruction Inspection:

General. Before performing any excavation, removal, or installation work (electrical or otherwise) at the site, the Contractor shall request a maintenance transfer and preconstruction site inspection, to be held in the presence of the Engineer and a representative of the party or parties responsible for maintenance of any lighting and/or traffic control systems which may be affected by the work. The request for the maintenance transfer and preconstruction inspection shall be made no less than seven (7) calendar days prior to the desired inspection date. The maintenance transfer and preconstruction inspection shall:

Establish the procedures for formal transfer of maintenance responsibility required for the construction period.

Establish the approximate location and operating condition of lighting and/or traffic control systems which may be affected by the work

Marking of Existing Cable Systems. The party responsible for maintenance of any existing lighting and/or traffic control systems at the project site will, at the Contractor's request, mark and/or stake, once per location, all underground cable routes owned or maintained by the State. A project may involve multiple "locations" where separated electrical systems are involved (i.e. different controllers). The markings shall be taken to have a horizontal tolerance of at least 304.8 mm (one (1) foot) to either side. The request for the cable locations and marking shall be made at the same time the request for the maintenance transfer and preconstruction inspection is made. The Contractor shall exercise extreme caution where existing buried cable runs are involved. The markings of existing systems are made strictly for assistance to the Contractor and this does not relieve the Contractor of responsibility for the repair or replacement of any cable run damaged in the course of his work, as specified elsewhere herein. Note that the contractor shall be entitled to only one request for location marking of existing systems and that multiple requests may only be honored at the contractor's expense. No locates will be made after maintenance is transferred, unless it is at the contractor's expense.

Condition of Existing Systems. The Contractor shall conduct an inventory of all existing electrical system equipment within the project limits, which may be affected by the work, making note of any parts which are found broken or missing, defective or malfunctioning. Megger and load readings shall be taken for all existing circuits which will remain in place or be modified. If a circuit is to be taken out in its entirety, then readings do not have to be taken. The inventory and test data shall be reviewed with and approved by the Engineer and a record of the inventory shall be submitted to the Engineer for the record. Without such a record, all systems transferred to the Contractor for maintenance during construction shall be returned at the end of construction in complete, fully operating condition."

Add the following to the 1st paragraph of Article 801.05(a) of the Standard Specifications:

"Items from multiple disciplines shall not be combined on a single submittal and transmittal. Items for lighting, signals, surveillance and CCTV must be in separate submittals since they may be reviewed by various personnel in various locations."

Revise the second sentence of the 5th paragraph of Article 801.05(a) of the Standard Specifications to read:

"The Engineer will stamp the submittals indicating their status as 'Approved', 'Approved as Noted', 'Disapproved', or 'Information Only'.

Revise the 6th paragraph of Article 801.05(a) of the Standard Specifications to read:

"Resubmittals. All submitted items reviewed and marked 'Approved as Noted', or 'Disapproved' are to be resubmitted in their entirety with a disposition of previous comments to verify contract compliance at no additional cost to the state unless otherwise indicated within the submittal comments."

Revise Article 801.11(a) of the Standard Specifications to read:

"Lighting Operation and Maintenance Responsibility. The scope of work shall include the assumption of responsibility for the continuing operation and maintenance the of existing, proposed, temporary, sign and navigation lighting, or other lighting systems and all appurtenances affected by the work as specified elsewhere herein. Maintenance of lighting systems is specified elsewhere and will be paid for separately

Energy and Demand Charges. The payment of basic energy and demand charges by the electric utility for existing lighting which remains in service will continue as a responsibility of the Owner, unless otherwise indicated. Unless otherwise indicated or required by the Engineer duplicate lighting systems (such as temporary lighting and proposed new lighting) shall not be operated simultaneously at the Owner's expense and lighting systems shall not be kept in operation during long daytime periods at the Owner's expense. Upon written authorization from the Engineer to place a proposed new lighting system in service, whether the system has passed final acceptance or not, (such as to allow temporary lighting to be removed), the Owner will accept responsibility for energy and demand charges for such lighting, effective the date of authorization. All other energy and demand payments to the utility shall be the responsibility of the Contractor until final acceptance."

Add the following to Section 801 of the Standard Specifications:

"Lighting Cable Identification. Each wire installed shall be identified with its complete circuit number at each termination, splice, junction box or other location where the wire is accessible."

"Lighting Cable Fuse Installation. Standard fuse holders shall be used on non-frangible (non-breakaway) light pole installations and quick-disconnect fuse holders shall be used on frangible (breakaway) light pole installations. Wires shall be carefully stripped only as far as needed for connection to the device. Over-stripping shall be avoided. An oxide inhibiting lubricant shall be applied to the wire for minimum connection resistance before the terminals are crimped-on. Crimping shall be performed in accordance with the fuse holder manufacturer's recommendations. The exposed metal connecting portion of the assembly shall be taped with two half-lapped wraps of electrical tape and then covered by the specified insulating boot. The fuse holder shall be installed such that the fuse side is connected to the pole wire (load side) and the receptacle side of the holder is connected to the line side."

Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection, the full-size set of contract drawings. Stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate either by filename or PDF table of contents the respective pay item number. Specific part or model numbers of items which have been selected shall be clearly visible."

3. LUMINAIRE

Add the following to first paragraph of Article 1067(c) of the Standard Specifications:

"The reflector shall not be altered by paint or other opaque coatings which would cover or coat the reflecting surface. Control of the light distribution by any method other than the reflecting material and the aforementioned clear protective coating that will alter the reflective properties of the reflecting surface is unacceptable"

Add the following to Article 1067.02(a)(1) of the Standard Specifications:

"The beam of maximum candlepower for luminaires specified or shown to have a 'medium' distribution shall be at 70 degrees from the horizontal ± 2.5 degrees. Submittal information shall identify the angle."

Add the following table(s) to Article 1067 of the Standard Specifications:

IDOT DISTRICT 1 LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS		
ROADWAY DATA	Pavement Width	44 - 59 (ft)
	Number of Lanes	4
	I.E.S. Surface Classification	R3
	Q-Zero Value	.07
LIGHT POLE DATA	Mounting Height	30 (ft)
	Mast Arm Length	8 (ft)
	Pole Set-Back From Edge of Pavement	VARIES
LUMINAIRE DATA	Lamp Type	LED
	Lamp Lumens	
	I.E.S. Vertical Distribution	Short
	I.E.S. Control Of Distribution	Cutoff
	I.E.S. Lateral Distribution	Type III
	Total Light Loss Factor	0.7
LAYOUT DATA	Spacing	VARIES
	Configuration	Opposite
	Luminaire Overhang over edge of pavement	VARIES

NOTE: Variations from the above specified I.E.S. distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

PERFORMANCE REQUIREMENTS		

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

ILLUMINATION	Ave. Horizontal Illumination, $\mathbf{E_{AVE}}$	1.2 Fc
	Uniformity Ratio, $\mathbf{E_{AVE}/E_{MIN}}$	3.0 (Max)
LUMINANCE	Average Luminance, $\mathbf{L_{AVE}}$	1.2 Cd/m^2
	Uniformity Ratio, $\mathbf{L_{AVE}/L_{MIN}}$	3.0 (Max)
	Uniformity Ratio, $\mathbf{L_{MAX}/L_{MIN}}$	5.0 (Max)
	Veiling Luminance Ratio, $\mathbf{L_V/L_{AVE}}$	0.3 (Max)

4. ELECTRIC UTILITY SERVICE CONNECTION (ComEd)

Description. This item shall consist of payment for work performed by ComEd in providing or modifying electric service as indicated. THIS MAY INVOLVE WORK AT MORE THAN ONE ELECTRIC SERVICE. For summary of the Electrical Service Drop Locations see the schedule contained elsewhere herein.

CONSTRUCTION REQUIREMENTS

General. It shall be the Contractor's responsibility to contact ComEd. The Contractor shall coordinate his work fully with the ComEd both as to the work required and the timing of the installation. No additional compensation will be granted under this or any other item for extra work caused by failure to meet this requirement. **Please contact ComEd, New Business Center Call Center, at 866 NEW ELECTRIC (1-866-639-3532) to begin the service connection process. The Call Center Representatives will create a work order for the service connection. The representative will ask the requestor for information specific to the request. The representative will assign the request based upon the location of project.**

The Contractor should make particular note of the need for the earliest attention to arrangements with ComEd for service. In the event of delay by ComEd, no extension of time will be considered applicable for the delay unless the Contractor can produce written evidence of a request for electric service within 30 days of execution.

Method Of Payment. The Contractor will be reimbursed to the exact amount of money as billed by ComEd for its services. Work provided by the Contractor for electric service will be paid separately as described under ELECTRIC SERVICE INSTALLATION. No extra compensation shall be paid to the Contractor for any incidental materials and labor required to fulfill the requirements as shown on the plans and specified herein.

For bidding purposes, this item shall be estimated as $2,500.00

Basis Of Payment. This work will be paid for at the contract lump sum price for ELECTRIC UTILITY SERVICE CONNECTION which shall be reimbursement in full for electric utility service charges.

5. ELECTRIC SERVICE INSTALLATION

Description. This item shall consist of all material and labor required to extend, connect or modify the electric services, as indicated or specified, which is over and above the work performed by the utility. Unless otherwise indicated, the cost for the utility work, if any, will be reimbursed to the Contractor separately under ELECTRIC UTILITY SERVICE CONNECTION. This item may apply to the work at more than one service location and each will be paid separately.

Materials. Materials shall be in accordance with the corresponding material Articles for the materials being used under this pay item.

CONSTRUCTION REQUIREMENTS

General. The Contractor shall ascertain the work being provided by the electric utility and shall provide all additional material and work not covered by contract pay items required to complete the electric service work in complete compliance with the requirements of the utility.

No additional compensation will be allowed for work required for the electric service, even though not explicitly shown on the Drawings or specified herein

Method Of Measurement. Electric Service Installation shall be counted, each.

Basis Of Payment. This work will be paid for at the contract unit price each for ELECTRIC SERVICE INSTALLATION which shall be payment in full for the work specified herein.

6. UNDERGROUND RACEWAYS

Revise Article 810.03 of the Standard Specifications to read:

> "Installation. All underground conduit shall have a minimum depth of 30-inches (700 mm) below the finished grade."

Add the following to Article 810.03 of the Standard Specifications:

> "All metal conduit installed underground shall be Rigid Galvanized Steel Conduit unless otherwise indicated on the plans."

Add the following to Article 810.03 of the Standard Specifications:

> "All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum or 300 mm (12") or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped. The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap. The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 3 mm (0.125") thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both

the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring."

7. WIRE AND CABLE

Revise the second sentence of the first paragraph of Article 1066.02(a) to read:

"The cable shall be rated at a minimum of 90°C dry and 75°C wet and shall be suitable for installation in wet and dry locations, and shall be resistant to oils and chemicals."

Revise the second paragraph of Article 1066.02(b) to read:

"Uncoated conductors shall be according to ASTM B3, ICEA S-95-658/NEMA WC70, and UL Standard 44. Coated conductors shall be according to ASTM B 33, ASTM B 8, ICEA S-95-658/NEMA WC70 and UL Standard 44."

Revise the third paragraph of Article 1066.02(b) to read:

"All conductors shall be stranded. Stranding meeting ASTM B 8, ICEA S-95-658/NEMA WC70 and UL Standard 44. Uncoated conductors meeting ASTM B 3, ICEA S-95-658/NEMA WC70 and UL Standard 44."

Revise the first sentence of Article 1066.03(a)(1) to read:

"General. Cable insulation designated as XLP shall incorporate cross-linked polyethylene (XLP) insulation as specified and shall meet or exceed the requirements of ICEA S-95-658, NEMA WC70, U.L. Standard 44."

Add the following to Article 1066.03(a)(1) of the Standard Specifications:

"The cable shall be rated 600 volts and shall be UL Listed Type RHH/RHW/USE."

Revise the Aerial Electric Cable Properties table of Article 1066.03(a)(3) to read:

Aerial Electric Cable Properties

Phase Conductor				Messenger wire	
Size AWG	Stranding	Average Insulation Thickness		Minimum Size AWG	Stranding
		mm	mils		
6	7	1.1	(45)	6	6/1
4	7	1.1	(45)	4	6/1
2	7	1.1	(45)	2	6/1
1/0	19	1.5	(60)	1/0	6/1
2/0	19	1.5	(60)	2/0	6/1

3/0	19	1.5	(60)	3/0	6/1
4/0	19	1.5	(60)	4/0	6/1

Revise the first paragraph of Article 1066.03(b) to read:

"EPR Insulation. Cable insulation shall incorporate ethylene propylene rubber (EPR) as specified and the insulation shall meet or exceed the requirements of ICEA S-95-658, NEMA Standard Publication No. WC70, and U.L. Standard 44, as applicable."

Add the following to Article 1066.03(b) of the Standard Specifications:

"Cable sized No. 2 AWG and smaller shall be U.L. listed Type RHH/RHW and may be Type RHH/RHW/USE. Cable sized larger than No. 2 AWG shall be U.L. listed Type RHH/RHW/USE."

Revise Article 1066.04 to read:

"Aerial Cable Assembly. The aerial cable shall be an assembly of insulated aluminum conductors according to Section 1066.02 and 1066.03. Unless otherwise indicated, the cable assembly shall be composed of three insulated conductors and a steel reinforced bare aluminum conductor (ACSR) to be used as the ground conductor. Unless otherwise indicated, the code word designation of this cable assembly is "Palomino". The steel reinforced aluminum conductor shall conform to ASTM B-232. The cable shall be assembled according to ANSI/ICEA S-76-474."

Revise the second paragraph of Article 1066.05 to read:

"The tape shall have reinforced metallic detection capabilities consisting of a woven reinforced polyethylene tape with a metallic core or backing."

Revise Article 1066.08 to read:

"Electrical Tape. Electrical tape shall be all weather vinyl plastic tape resistant to abrasion, puncture, flame, oil, acids, alkalies, and weathering, conforming to Federal Specification MIL-I-24391, ASTM D1000 and shall be listed under UL 510 Standard. Thickness shall not be less than 0.215 mm (8.5 mils) and width shall not be less than 20 mm (3/4-inch)."

8. GROUND ROD

This item shall consist of furnishing, installing and connecting ground rods for the grounding of service neutral conductors and for supplementing the equipment grounding system via connection at poles or other equipment throughout the system. All materials and work shall be in accordance with Article 250 of the NEC.

Materials shall be according to the following Articles of Section 1000 - Materials

Item	Article/Section

(a) Grounding Electrodes.....1087.01(b)
(b) Grounding Electrode Conductors.....1087.01(a)
(c) Access Well.....1087.01(c)

CONSTRUCTION REQUIREMENTS

All connections to ground rods, structural steel or fencing shall be made with exothermic welds. Where such connections are made to insulated conductors, the connection shall be wrapped with at least 4 layers of electrical tape extended 152.4 mm (six inches) onto the conductor insulation.

Ground rods shall be driven so that the tops of the rod are 609.6 mm (24 inches) below finished grade. Where indicated, ground wells shall be included to permit access to the rod connections.

Where indicated, ground rods shall be installed through concrete foundations.

Where ground conditions, such as rock, preclude the installation of the ground rod, the ground rod may be deleted with the approval of the Engineer.

Where a ground field of "made" electrodes is provided, such as at control cabinets, the exact locations of the rods shall be documented by dimensioned drawings as part of the Record Drawings.

Ground rod connection shall be made by exothermic welds. Ground wire for connection to foundation steel or as otherwise indicated shall be stranded uncoated bare copper in accordance the applicable requirements of ASTM Designation B-3 and ASTM Designation B-8 and shall be included in this item. Unless otherwise indicated, the wire shall not be less than No. 2 AWG.

Where connections are made to epoxy coated reinforcing steel, the epoxy coating shall be sufficiently removed to facilitate the exothermic weld.

Ground wires and connection of ground rods at poles shall be included.

This item shall not be paid for separately but shall be included in the cost of the item for which installed.

9. REMOVAL OF LIGHT UNIT, SALVAGE

This item shall consist of the removal and delivery to the City of an existing lighting unit, as indicated on the plans, with connecting cable, in accordance with Section 842 of the Standard Specifications with the following additions:

The contractor shall remove and deliver to the Village of Lincolnwood 6 complete concrete light poles. The complete light poles to be salvaged shall be identified by a representative of the Village.

The contractor shall disassemble the existing concrete light poles and provide to the Village of Lincolnwood all lighting fixtures, arms, control boxes, top and bottom ballast, access panel doors, and all other items requested for salvage, as directed by the Engineer.

The contractor shall take ownership and dispose of the remaining parts of the concrete light poles.

All electric conductor, neutral, and ground cables shall be removed between the pole to be removed and the nearest pole (or receptacle) to remain on the same existing lighting system. If no other poles exist on the same lighting system as the pole to be removed, all electrical cables shall be removed between the pole to be removed and the electrical service. The equipment to remain shall be reconnected using contract pay items, as directed by the Engineer.

All removed cable shall be the property of the Village of Lincolnwood, and delivered to the public works facility within 72 hours of removal.

All salvaged material shall be delivered to the Village of Lincolnwood's Public Works Department located at 7001 N. Lawndale Avenue, in Lincolnwood. The contractor shall unload and stack the salvaged material as directed by the Public Work's personnel.

All signs and sign panel assemblies mounted to existing light poles shall be removed prior to the removal of the lighting unit, in accordance with Section 107.25 of the Standard Specifications. All signed designated by the Engineer as necessary, shall be temporarily re-erected in a manner approved by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price per each for: REMOVAL OF LIGHT UNIT, SALVAGE, which price shall be payment in full for the complete removal, disassembly, disposal, and delivery to the Village of Lincolnwood all salvaged material from existing lighting unit. This also includes performing all of the operations required for completion of the work.

10. REMOVAL OF POLE FOUNDATION, FULL DEPTH

This item shall consist of removal and disposal of light pole foundations as directed by the Engineer. Work shall be performed in accordance with Section 842 of the Standard Specifications with the following exceptions:

Construction Requirements. Concrete foundations shall be removed in their entirety. Underground conduit and cables shall be separated from the foundation and removed where necessary to facilitate the installation of the proposed lighting system. The remaining conduit shall be abandoned in place a minimum of 2.5 feet below grade. All voids caused by the removal of this pay item shall be backfilled according to Article 841.02 of the Standard Specifications and shall be considered incidental to this pay item.

Basis of Payment. This work shall be paid for at the contract unit price per each for: REMOVAL OF POLE FOUNDATION, FULL DEPTH, which price shall be payment in full for removal and disposal of entire concrete foundation and performing the operations required for completion of the work.

11. REMOVE LIGHTING CONTROLLER, SPECIAL

This item shall consist of removal of existing lighting controllers as shown on the plans. Any

and all references to Existing Controller in the plans or the following special provisions shall be interpreted to mean all, but not limited to controller cabinet, components, and electric service. Work shall be performed in accordance with Section 845 of the Standard Specifications with the following exceptions:

Construction Requirements. All voids caused by the removal of this pay item shall be backfilled according to Article 841.02 of the Standard Specifications and shall be included in the unit price of this pay item.

Basis of Payment. This work shall be paid for at the contract unit price per each for: REMOVE LIGHTING CONTROLLER, SPECIAL, which price shall be payment in full for removal of the electrical controller, components, accessories, foundation, electric service and performing the operations required for completion of the work.

12. LIGHT POLE FOUNDATION, SPECIAL

This item shall consist of constructing a drilled shaft foundation for a light pole as shown on the plans and in accordance with Section 836 of the Standard Specifications with the following additions:

Construction Requirements. The Engineer shall determine if an offset foundation is required.

The foundation shall be cast-in-place and allowed to cure for 14 days before the pole is erected.

The foundation depth used to calculate the Light Pole Foundation, Special quantity was 9 feet for single arm light poles and 11 feet for twin arm poles. At a minimum, the light pole foundations shall be at these depths. Increases in foundation depths may be made if determined to be necessary, as approved by the Engineer.

Basis of Payment. This work shall be paid for at the contract unit price per foot installed for: LIGHT POLE FOUNDATION, SPECIAL, measured in place, which price shall be payment in full for constructing the foundation, complete with all reinforcement, raceways, anchor bolts, grounding, incidentals, and performing all the operations required for completion of the work. Any offsets in the foundation will be measured along the vertical and horizontal centerlines of the foundation without overlap.

13. LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, SINGLE – 8 FOOT DAVIT ARM, SPECIAL

This item shall consist of furnishing and installing a 30 ft. mounting height pole with a single 8 ft. davit arm as specified herein and on the drawings, in the locations shown on the plans, including the pole, davit arm, transformer base, festoon outlet receiver plate with cover, mounting hardware, painting and touch-up, and all other accessories in accordance with Sections 830, 838, and 1069 of the Standard Specifications with the following additions:

The light pole shall be manufactured by Hapco, or approved equal, order number 'SKKP091912A'.

The transformer base shall be manufactured by Hapco, or approved equal, order number 'A78481'.

The light pole accessories shall include: festoon outlet receiver plate and cover, as shown on the light pole detail, which shall be manufactured with the poles (for future GFI receptacle installation).

The pole, arm, and base shall be factory painted to a textured 30% gloss black finish.

All Access hardware including anchor bolts, bolt covers, and handholes shall have Anti – Seize screws/bolts.

Submittal documents shall include, but not be limited to, shop drawings, paint sample, UL listed certification, manufacturer's certification and calculations for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

All signs shall be relocated onto the proposed light poles, as directed by the Engineer. They shall be fastened to the pole with new Black Stainless Steel sign panel assemblies and bands.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish. The poles shall be delivered to the Village with these items intact.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, SINGLE – 8 FOOT DAVIT ARM, SPECIAL, which price shall be payment in full for furnishing and installing the light pole. This includes the pole, davit arm, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, black stainless steel panel assemblies/bands, and all other accessories and performing all operations required for completion of the work.

14. LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 90 – 8 FOOT DAVIT ARM, SPECIAL

This item shall consist of furnishing and installing a 30 ft. mounting height pole with dual 8 ft. davit arm as specified herein and on the drawings, in the locations shown on the plans, including the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, and all other accessories in accordance with Sections 830, 838, and 1069 of the Standard Specifications with the following additions:

The light pole shall be manufactured by Hapco, or approved equal, order number 'SKKP091912B'.

The transformer base shall be manufactured by Hapco, or approved equal, order number 'A78481'.

The light pole accessories shall include: festoon outlet receiver plate and cover, as shown on the light pole detail, which shall be manufactured with the poles (for future GFI receptacle installation).

The pole, arm, and base shall be factory painted to a textured 30% gloss black finish.

All Access hardware including anchor bolts, bolt covers, and handholes shall have Anti – Seize screws/bolts.

Submittal documents shall include, but not be limited to, shop drawings, paint sample, UL listed certification, manufacturer's certification and calculations for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

All signs shall be relocated onto the proposed light poles, as directed by the Engineer. They shall be fastened to the pole with new Black Stainless Steel sign panel assemblies and bands.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish. The poles shall be delivered to the Village with these items intact.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 90 – 8 FOOT DAVIT ARM, SPECIAL, which price shall be payment in full for furnishing and installing the light pole. This includes the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, black stainless steel panel assemblies/bands, and other accessories and performing all operations required for completion of the work.

15. LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 180 –8 FOOT DAVIT ARMS, SPECIAL

This item shall consist of furnishing and installing a 30 ft. mounting height pole with 8 ft. davit arms as specified herein and on the drawings, in the locations shown on the plans, including the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, and all other accessories in accordance with Sections 830, 838, and 1069 of the Standard Specifications with the following additions:

The light pole shall be manufactured by Hapco, or approved equal.

The transformer base shall be manufactured by Hapco, or approved equal, order number 'A78481'.

The light pole accessories shall include: festoon outlet receiver plate and cover, as shown on the light pole detail, which shall be manufactured with the poles (for future GFI receptacle installation).

The pole, arm, and base shall be factory painted to a textured 30% gloss black finish.

All Access hardware including anchor bolts, bolt covers, and handholes shall have Anti – Seize screws/bolts.

Submittal documents shall include, but not be limited to, shop drawings, paint sample, UL listed certification, manufacturer's certification and calculations for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

All signs shall be relocated onto the proposed light poles, as directed by the Engineer. They shall be fastened to the pole with new Black Stainless Steel sign panel assemblies and bands.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish. The poles shall be delivered to the Village with these items intact.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 180 – 8 FOOT DAVIT ARMS, SPECIAL, which price shall be payment in full for furnishing and installing the light pole. This includes the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, black stainless steel panel assemblies/bands, and other accessories and performing all operations required for completion of the work.

16. LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 180 – 4 & 12 FOOT DAVIT ARM, SPECIAL

This item shall consist of furnishing and installing a 30 ft. mounting height pole with a 4 ft. and 12 ft. davit arm as specified herein and on the drawings, in the locations shown on the plans, including the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, and all other accessories in accordance with Sections 830, 838, and 1069 of the Standard Specifications with the following additions:

The light pole shall be manufactured by Hapco, or approved equal, order number 'SKKP091912C'.

The transformer base shall be manufactured by Hapco, or approved equal, order number 'A78481'.

The light pole accessories shall include: festoon outlet receiver plate and cover, as shown on the light pole detail, which shall be manufactured with the poles (for future GFI receptacle installation).

The pole, arm, and base shall be factory painted to a textured 30% gloss black finish.

All Access hardware including anchor bolts, bolt covers, and handholes shall have Anti – Seize screws/bolts.

Submittal documents shall include, but not be limited to, shop drawings, paint sample, UL listed certification, manufacturer's certification and calculations for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

All signs shall be relocated onto the proposed light poles, as directed by the Engineer. They shall be fastened to the pole with new Black Stainless Steel sign panel assemblies and bands.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish. The poles shall be delivered to the Village with these items intact.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE, ALUMINUM, 30 FOOT MOUNTING HEIGHT, DUAL 180 – 4 & 12 FOOT DAVIT ARM, SPECIAL, which price shall be payment in full for furnishing and installing the light pole. This includes the pole, davit arms, transformer base, festoon outlet receiver plate and cover, mounting hardware, painting and touch-up, black stainless steel panel assemblies/bands, and other accessories and performing all operations required for completion of the work.

18. BANNER ARMS

This item shall consist of furnishing and installing banner arms and flag holder as specified herein and on the drawings, at the locations shown on the plans.

The light pole accessories shall be manufactured with the poles.

The accessories shall be factory painted to a textured 30% gloss black finish.

All hardware shall have Anti – Seize screws/bolts.

Submittal documents shall include, but not be limited to, shop drawings, paint sample, manufacturer's certification and calculations for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish. The poles shall be delivered to the Village with these items intact.

Basis of Payment. This work shall be paid for at the contract unit price per each (pair) for: BANNER ARMS, which price shall be payment in full for furnishing and installing the banner arms, flag holder, mounting hardware, painting and touch-up, and all incidentals required for completion of the work.

19. LIGHT POLE BASE, HDPE, SPECIAL

This item shall consist of furnishing and installing an HDPE cover as specified herein and on the drawings, at the proposed street light locations shown on the plans:

The HDPE one-piece light pole base shall be manufactured by Hadco, or approved equal, order number 'C6451-DWG01'.

Submittal documents shall include, but not be limited to, shop drawings and manufacturer's certification for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE BASE, HDPE, SPECIAL, which price shall be payment in full for furnishing and installing the light pole shroud. This includes the HDPE cover and performing all operations required for completion of the work.

20. LIGHT POLE BASE, CLAMSHELL, SPECIAL

This item shall be the alternate to "LIGHT POLE BASE, HDPE, SPECIAL" and consist of furnishing and installing an aluminum clamshell cover as specified herein and on the drawings, at the proposed street light locations shown on the plans:

The two-piece aluminum clamshell base shall be manufactured by Hadco, or approved equal, with the same dimensions as the 'HDPE one-piece base' specified in the special provision for "LIGHT POLE BASE, HDPE, SPECIAL" (C6451-DWG01).

Submittal documents shall include, but not be limited to, shop drawings and manufacturer's certification for the catalog data as described above, and shall be submitted to the Engineer for review and approval. Order numbers shall not be considered complete, and therefore no materials shall be ordered or delivered to the job site until all pertinent equipment submittals have been approved by the Engineer.

Protected Delivery. All items shall be delivered with protective packaging or wrapping as required to minimize damage to finish.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHT POLE BASE, CLAMSHELL, SPECIAL, which price shall be payment in full for furnishing and installing the light pole shroud. This includes the aluminum clamshell cover, hardware, and performing all operations required for completion of the work.

21. LUMINAIRE, ITEM F1, SPECIAL

This item shall consist of furnishing and installing luminaire assemblies as specified herein and on the drawings, in the locations shown on the plans, including the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp and all other accessories in accordance with Sections 821 and 1067 of the Standard Specifications with the following additions:

The luminaire assembly shall be manufactured by Philips Hadco, or approved equal, model number RX2 LEDGINE, order number 'RX2120 T1 A 3 N A 5 N N A N'. The LED luminaire is die-cast aluminum, wired for a 240V system (1 phase, 2 wire connection), full cut-off, type III distribution.

The luminaire assembly shall be factory painted 30% gloss black.

The LED Luminaire assembly shall be equipped with the optional 10kV BIL surge suppression.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LUMINAIRE, ITEM F1, SPECIAL, which price shall be payment in full for furnishing and installing the luminaire assembly. This includes the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp, and other accessories and performing all operations required for completion of the work.

22. LUMINAIRE, ITEM F2, SPECIAL

This item shall consist of furnishing and installing luminaire assemblies as specified herein and on the drawings, in the locations shown on the plans, including the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp and all other accessories in accordance with Sections 821 and 1067 of the Standard Specifications with the following additions:

The luminaire assembly shall be manufactured by Philips Hadco, or approved equal, model number RX2 LEDGINE, order number 'RX2120 T1 A 5 N A 5 N N A N'. The LED luminaire is die-cast aluminum, wired for a 240V system (1 phase, 2 wire connection), full cut-off, type V distribution.

The luminaire assembly shall be factory painted 30% gloss black.

The LED Luminaire assembly shall be equipped with the optional 10kV BIL surge suppression.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LUMINAIRE, ITEM F2, SPECIAL, which price shall be payment in full for furnishing and installing the luminaire assembly. This includes the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp, and other accessories and performing all operations required for completion of the work.

23. LUMINAIRE, ITEM F3, SPECIAL

This item shall consist of furnishing and installing luminaire assemblies as specified herein and on the drawings, in the locations shown on the plans, including the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp and all other accessories in accordance with Sections 821 and 1067 of the Standard Specifications with the following additions:

The luminaire assembly shall be manufactured by Philips Hadco, or approved equal, model number RX2 LEDGINE, order number 'RX2120 T1 A 3 N A 5 R N A N'. The LED luminaire is die-cast aluminum, wired for a 240V system (1 phase, 2 wire connection), full cut-off, type III distribution.

The luminaire assembly shall be factory painted 30% gloss black.

The luminaire assembly shall be equipped with a photocell receptacle.

The LED Luminaire assembly shall be equipped with the optional 10kV BIL surge suppression.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LUMINAIRE, ITEM F3, SPECIAL, which price shall be payment in full for furnishing and installing the luminaire assembly. This includes the luminaires, hardware, painting and touch-up, wiring supplied from luminaire to the pole base, fuses, lamp, and other accessories and performing all operations required for completion of the work.

24. LIGHTING CONTROLLER, SPECIAL

This item shall consist of furnishing and installing an electrical controller according to the details, location, and orientation shown on the plans in accordance with Section 825 of the Standard Specifications with the following exceptions:

Each control cabinet shall be supplied with an 8-1/2 inch by 11 inch plastic bag drawing holder for the lighting controller wiring diagram. The drawing holder shall be mounted in the cabinet in a conspicuous location.

A 1-1/2" X 4" plastic nameplate is to be installed on the inside of the door of each controller with the complete controller number engraved in it. The letters are to be ¾" high, white on black backing.

Finish. The cabinet shall have a factory applied paint finish consisting of baked primer followed by two coats of dark green enamel, baked after application.

After all installation, the exterior of the cabinet and base shall be washed with an approved degreasing compound. Any scratches on the cabinet shall be touched up or the cabinet completely repainted as directed by the Engineer.

Submittal of Drawings. The contractor shall furnish, prior to any shop work, complete and detailed drawings of controller wiring diagrams, dimensions, type of control cabinet, equipment mounting panel, arrangement of equipment on panel, wire sizes for connections between main breaker, contactor, photoelectric cell, circuit breakers, toggle switch, receptacle and all appurtenances as detailed on the plans.

It is called to the attention of the contractor that all branch circuits shall be identified by letters as indicated on the lighting controller wiring diagram. The exact letter sequence, shown on the wiring diagrams, must be followed in order to maintain the designed load across each pole of the main switch.

Basis of Payment. This work shall be paid for at the contract unit price per each for: LIGHTING CONTROLLER, SPECIAL, which price shall be payment in full for furnishing and installing the electrical controller, components, accessories and performing the operations required for completion of the work.

SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012, the "Supplemental Specifications and Recurring Special Provisions", adopted January 1, 2013, and the latest edition of the Illinois Manual on Uniform Control Devices for Streets and Highways", in effect on the date of invitation for bids, and the current edition of the "Standard Specifications for Water main and Sewer Construction in Illinois". These Special Provisions included herein apply to and govern the proposed improvement and, in case of conflict with any part or parts of said specifications, said special provisions shall take precedent and shall govern.

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WATER USAGE

Water will be available, at no cost, to the contractor for all approved construction activities such as filling new mains, flushing, jetting of trenches, and washing of Village streets. The contractor must use his own water meter, with backflow preventor, when using water from Village hydrants. It is the contractor's responsibility to measure (meter) the quantity of water used during construction operations. The quantity of water used in gallons, shall be reported to the Village on a monthly basis. The cost of such work is incidental to the contract.

WORKING HOURS

Village working hours on weekdays are from 7:00 AM to 6:00 PM., Saturdays from 7:00 AM to Noon. No work is allowed on Sundays.

MAINTENANCE OF ACCESS

This work shall consist of providing vehicular access across water main trenches, were needed, by the close of each work day throughout duration of construction project. Access shall be provided utilizing steel plates, AGGREGATE FOR TEMPORARY ACCESS, or TEMPORARY PAVEMENT as determined by the Engineer. It is intended that access to residential and commercial drives across trench shall be provided using aggregate prior to patching, while utilizing steel plates following patching operations during the concrete curing periods. Also, as described in subsequent special provision, TEMPORARY PAVEMENT shall be used to provide access at intersections and in travel lanes on Crawford Avenue. TEMPORARY PAVEMENT shall be high early strength concrete reaching a 3500psi strength in 72 hours. During the curing period the roadway shall have a steel plate covering the temporary patch. The temporary concrete patches shall be 6" thick and measured for payment by the SQUARE YARD.

Maintenance of access points, cleaning of road surface, furnishing and placing of steel plates shall be including in this item and considered incidental to the various contract pay items. AGGREGATE FOR TEMPORARY ACCESS shall be paid for as outlined in the Standard Specifications, while TEMPORARY PAVEMENT shall be paid for as outlined in these Special Provisions.

DUCTILE IRON WATER MAIN (CLASS 52)

Water main shall be ductile iron pipe (DIP) Class 52 AWWA C151 with the cement mortar lining. The pipe shall have bell and spigot connections with elastometric joints conforming to AWWA C111.

Water main shall have four inches of sand bedding (FA-6) extending to 6" above the top of the pipe. The Contractor shall be required to use mechanical joint restraint, MEGALUG SERIES 1100 manufactured by EBAA IRON, at all elbows, tees, bends and any end fillings as shown on the plan detail sheets. End fillings shall also include poured PCC thrust blocking. Water main shall be placed at a minimum depth of 5.5 feet as measured to the top of the pipe from the proposed ground elevation.

FITTINGS: Joints on valves, hydrants and all fittings including water main plugs shall be mechanical type. The cost of fittings shall not be paid for separately, but shall be included in with the cost for installation of the water main. All connections into existing mains should be accomplished without interruption to service unless approved by the Village of Lincolnwood.

PRESSURE TESTING AND FLUSHING OF WATER MAINS: All water mains shall be pressure tested and flushed, and chlorinated in accordance with the Village of Lincolnwood and Illinois EPA standards. There shall be no compensation for this work. It shall be incidental to the installation of the water main. Prior to any water being used on the site, or any service connections made, the pressure testing and chlorination must be done, and accepted by the Village of Lincolnwood Water Superintendent.

When a length of pipe and appurtenances has been completed and before it is covered, the Contractor shall furnish proper equipment and facilities for testing and draining the same, without injury to the work, or surrounding property. He shall test by filling the pipe with clean water furnished and paid for by the Contractor. Air shall not be used for pressure testing. Unless otherwise stated, all pipe shall be subject to the following hydrostatic tests.

All pipe shall be tested under a minimum hydrostatic pressure of one-hundred fifty pound per square inch and measured over a period of two hours.

The test section shall be inspected by the Engineer to ascertain that the test section is valved properly and that the testing equipment used has the ability to perform and measure the test pressure. After inspection, the Contractor, shall, using equipment, personnel and materials supplied and paid for by him, pump the test section to a pressure of 150 psi. If during the test period, the pressure drops below 140 psi, the Contractor shall pump the test section back up to 150 psi using water from an acceptable measuring container. Every time the pressure drops below 140 psi, the pressure shall be pumped back to 150 psi. Finally, after two hours, the pressure shall be again brought back to 150 psi.

Leakage shall not exceed the amount specified in the standard specifications for the pipe sizes tested.

Any defects, cracks or leakage that develops, or that may be discovered either in the joints or in the body of the castings or pipe walls, shall be promptly made good by the Contractor, at his own expense, either by replacement of the defective items or by repair as approved by the Engineer. Backfilling around joints shall not be made until leakage tests have been made and if any leaks are detected, the installation shall be required and leaks eliminated to meet the requirements stated above.

Depending on the traffic conditions, public hazard, or other reasons, the Engineer may direct when tests of completed sections of the mains shall be made, and he may order such tests to be made in relatively short sections in order that hazardous sections may be backfilled promptly.

DISINFECTION OF WATER MAINS: All water mains shall be disinfected in accordance with the Village of Lincolnwood and Illinois EPA standards. There shall be no compensation for this work. It shall be incidental to the installation of the water main. Prior to any water being used on the site, or any service connections made, the disinfection and chlorination must be done, and accepted by the Village of Lincolnwood Water Superintendent.

All pipe and fittings connected to and forming a part of a potable water supply shall be disinfected in a manner acceptable to the Engineer.

The following method, or other acceptable to the State Department of Health and the Engineer, shall be used.

Generally, sampling taps shall be provided on the water main every five hundred feet, in order to afford representative water testing and sample collection. Taps shall be in valve vaults only and shall be used for testing as well as sampling.

When long transmission mains are constructed, without side connections, the distance between each tap may, at the discretion of the Engineer, be increased. In all instances, however, sampling taps shall be provided to collect a source sample and enough representative samples for laboratory examination. Each valved section of the completed main shall be flushed prior to disinfection as thoroughly as possible with water pressure and outlets available. If no hydrant is provided at the end of the main section extremity large enough to develop a velocity in the main of at least 2.5 fps, the flushing operation shall be done after the pressure test has been made.

Before being place in service, all new mains and existing piping disturbed in any manner by the work shall

be disinfected. Draining the water from existing piping or even lowering the water pressure more than one-half will constitute disturbances of the piping.

The disinfection of water mains, valves and other appurtenances incorporated into the main construction shall be done by chlorine gas water mixture. This shall be applies by means of a chlorinating measuring apparatus, with proper devices for regulating the flow and providing an effective diffusion into the water within the main being disinfected.

In certain instances, when the use of chlorine gas in not practical, as in confined areas, upon approval of the Engineer, a chlorine-bearing compound of known chlorine content, prepared in solution form, may be substituted for chlorine gas. The recommended chlorine-bearing compound shall be high-test calcium hypochlorite (65-70 percent available chlorine). In the preparation of this solution, the powder shall first be made into a paste and then chlorine solution (100,000 parts per million). This will require about 7.5 gallons of water to each one pound of powder. The clear supernatant shall be applied to the main through a rubber hose by gravity, siphonage, injection or by suitable pump feeder.

The point of chlorine application shall be at the beginning of the water main construction and/or any valve section thereof, through a corporation cock installed close to and on the downstream side of the rate of chlorine application shall be in such proportion to the rate of water flow entering the main that the chlorine dose applied shall produce fifty parts per million (420 pounds per million gallons) chlorine concentration in the water within the main.

During disinfection operations, valves, hydrants and other mechanical devices controlling the flow of water shall be operated to permit full effectiveness of the chlorine. Valves shall be manipulated so that the strong solution within the main being disinfected will not flow back into the supply line nor flow into mains already in service. A chlorine concentration test shall be made, in turn, at each of the hydrants and/or taps provided for that purpose.

After the disinfecting operation has been completed and upon satisfactory testing, the heavy chlorinated water shall be retained in the main long enough to destroy all non-spore forming bacteria. This period shall be at least twenty-four hours. At the completion of the retention period, the chlorine concentration of the water with in the main shall be at least twenty-five parts per million (210 pounds per million gallons) of chlorine.

After the required period of retention has elapsed, the heavy chlorinated water shall be flushed out completely to waste by the Contractor until the replacement water throughout the length of the main shall, upon test, be proven comparable in quality to the water supply source.

When the water in the treated main shall have been proven comparable to that of the source, water samples shall be collected at each of the sampling taps and submitted to a certified laboratory on two separate days. Under no circumstances shall such samples be collected from hydrants of non-disinfected hose connections. Should the results of the bacteriological examination prove satisfactory, the main shall be placed in service.

Should the initial disinfection fail to result in approval, the disinfection procedure shall be repeated until satisfactory results are obtained.

Bacteriological analyses will be run by a State of Illinois Certified testing lab, approved by the Engineer, employed and paid for by the Contractor. Samples will be picked up by a certified testing laboratory and delivered to the lab or mailed as appropriate. Standard IEPA Laboratory report forms for operating permit must be used and submitted to the Village promptly after satisfactory completion of the analysis.
Payment for DUCTILE IRON WATER MAIN, of size specified shall include payment for all testing, disinfection, mechanical joint fittings, fittings, megalugs, tees, bends, etc. as shown on the plans unless otherwise specified for payment.

Water main shall be paid for at the contract unit price per FOOT for DUCTILE IRON WATER MAIN (CLASS 52), *of the size specified.* This shall be full compensation for all labor, equipment and material necessary to construct the work.

DUCTILE IRON WATER MAIN RESTRAINED JOINT TYPE

This item shall follow all the requirements of the above special provision except that all pipe joints shall include restrained joints. These joints shall be U.S. Pipe's TR FLEX Restrained Joint Fittings or approved equal in accordance with the performance requirements of ANSI/AWWA C111/A21.11. Restraint of field cut pipe shall be provided with U.S. Pipe's TR FLEX Gripper Ring, TR FLEX Pipe field weldments or approved equal. This pay item is intended for use in auger and jacked casing pipes and within the IDOT right of way.

Payment for DUCTILE IRON WATER MAIN, RESTRAINED JOINT, *of the size specified*, VAULTS shall be paid for at the contract unit price per FOOT which includes payment for all testing, disinfection, mechanical joint fittings, TR FLEX Restrained joint gaskets, fittings, megalugs, tees, bends, etc. as shown on the plans unless otherwise specified for payment.

NITRILE GASKETS FOR WATER MAIN

This work shall consist of furnishing and installing NITRILE Gaskets at water main joints at areas indicated by the engineer. It is the intention to use this pay item in areas where non-special waste contaminated soils are encountered and the use of corrosive resistant gasket is desirable. This may occur at major intersections where existing gas station are present or may have been at some time. When contaminated soils are encountered, work shall not proceed until NITRILE Gaskets are furnished for installation. Contaminated soils shall be properly disposed of according to other sections of the contract documents.

NITRILE GASKETS FOR WATER MAIN, *of size specified*, shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

WATER VALVES

This work shall include the materials, equipment, and labor necessary to furnish and install various size water valves that conform to AWWA C509. Valves shall be non-rising stem resilient wedge, open left, in design. The stems shall be of high tensile strength bonds. Sod, Pavement, Sidewalk, or Driveway replacement shall be paid for separately.

WATER VALVES, *of size specified* shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

FIRE HYDRANTS TO BE REMOVED

This pay item will be used for the complete removal of existing fire hydrants and auxiliary valve boxes. It will be used where shown on the plans and as directed by the Engineer, on abandoned lines.

This work shall consist of cutting the existing water main (about 5.5' below grade) 2 feet away from the auxiliary valve. The remaining water main section shall be mechanically capped and the excavation backfilled. Fire hydrants to be removed shall remain the property of the Village and will be delivered to the Village, Public Works Department Yard at Lawndale & Lunt.

FIRE HYDRANTS TO BE REMOVED shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX

All materials used in the production of fire hydrants shall conform to AWWA Standard C502. Hydrants shall be the Village of Lincolnwood standard, Mueller A-425, red in color. All hydrants shall be equipped with two four and one-half inch (4-1/2") steamer connections. Hose thread shall be standard for the Village of Lincolnwood which is NST. All hydrants shall be equipped with auxiliary valve box which shall be installed in accordance with the details as shown on the plans. Hydrants shall be located a minimum of three feet (3') from the back of the sidewalk, or as shown on the plans. Hydrants shall be provided with a sidewalk flange. Breaking devices will be at the sidewalk flange which will allow the hydrant body to separate with minimum damage to hydrant parts. See plan detail on Sheet #10.

The Contractor shall assure that the hydrants will be plumb and shall be set so that the lowest hose connection is at least 18 inches above the proposed finished grade. A minimum of one-half cubic yard of #2 washed gravel shall be placed at the base of the hydrant to insure proper drainage after use. The blocking of the hydrants shall consist of a concrete block placed at the bottom to support the hydrant and mechanical joint restraints, MEGALUG SERIES 1100 manufactured by EBAA IRON, from the main to the mechanical joint shoe at the hydrant.

The Contractor shall not cover any weep holes on the hydrant. The hydrant shall be set on a concrete block to insure firm bearing for the hydrant base. Retainer glands shall be used on the valve and tee. Pavement, Sod, Sidewalk, or Driveway replacement shall be paid for separately.

FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID

This work shall consist of the furnishing and installation of pre-cast reinforced concrete vaults for the purpose of housing water main valves. Vaults shall be installed in accordance with Sections 602 and 1042 of the Standard Specifications.

Valve vault covers shall be Neenah R-1713-B frame or approved equal meeting IDOT Standard Type 1 frame with the word "WATER" cast into the lid. They shall have one inch (1") concealed pick holes. Sod, Pavement, Sidewalk, or Driveway replacement shall be paid for separately.

VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID, *of size specified* shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

FILLING VALVE VAULTS

This work shall also consist of all work necessary to fill existing valve vaults so designated on the plans or by the engineer. The term "fill" shall consist of removing the upper portion of an existing structure, sealing all openings in structure, and filling the remainder of the structure with materials as specified.

All pavements will be sawed to a full depth prior to any structure filling operation. Structures in private paved areas, parkways and other grassed areas shall be removed a minimum of 2-feet below final grade and structures in public streets shall be removed a minimum of 3-feet below final grade. Remaining portions of existing structures may be filled with sand trench backfill (FA-6) material in accordance with the contract documents or may be filled with CLSM material in accordance with Section 1019, at Contractor's option. Structures shall be pumped out and cleaned of all mud and debris before the fill material is placed. The remainder of the excavation shall be backfilled in accordance with the contract documents. Sod, Pavement, Sidewalk, or Driveway replacement shall be paid for separately.

FILLING VALVE VAULTS shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work

WATER MAIN LINE STOP, *of size specified*

This work shall consist of the placement of a self contained hydraulic unit within an operating water main for the purpose of installation of a valve and/or other connection with the existing system without interruption of service.

The line stop unit shall be a self contained hydraulic (hand pump operated) ram. The line stopping device shall be of such design that, when hydraulic pressure is applied, the bladder will expand and conform to the I.D. of the pipe and tuberculation inside the main (if any) will be moved outside of the sealing area.

The line stop shall be of the 'Short Stop' variety, which will require removing only the top of the pipe during the operation. All fitting shall employ and I.D. thread, screw type engagement together with O-Ring seal for bubble tight completion. After insertion of plug, a screw-on cap will be used and bolted down. The system shall be capable of containing a water pressure of 150 psi. The line stopping system shall be Hydra-Stop or approved equal. Line stop sleeves shall be style Extra Heavy Duty as manufactured by Hydra-Stop or approved equal.

The unit price per each shall be payment in full for all materials; labor and equipment required for: supply and installation of the LINE STOP; placement of required plugs; testing / inspection; correction of defects; and, related work required to complete the installation which is not included under other Payment Items.

WATER MAIN LINE STOP, *of the size specified* shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

WATER SERVICE CONNECTION

This work shall consist of installation of a new water service line from new water main to existing domestic water meter vaults. All existing water service connections shown on the plans or indicated by the Engineer are to be transferred to the new watermain. The connections shall be made using 1 inch, 1.5", 2" or 3" type K copper (match existing service size), and shall extend from the new watermain to the location of the existing water meters for each residence and/or business. All water service connections shall be augered. Some services encountered may be 1.5", 1.75" or 2" in size. Connection to the water meter (in the meter vaults) will be made as shown on the plan detail on the plans. This item shall include installation of new corporation stop coupling, service box, curb stop coupling, and roundway as shown in detail.

Replacement of the water meter and pit will not be necessary.

Measurement and payment for this item shall be per foot of Type K copper (1", 1.5", 1.75", 2" or 3" dia.) which price shall include all labor and materials for connection, new corporation stop, double strap saddle, roundway, curb stop, service B-Box, street augering, restoration and backfilling.

Water services less than 30 feet in length, measured in place, shall be paid for as WATER SERVICE CONNECTION (SHORT), while services longer than 30 feet and less than 80 feet, measured in place, shall be paid for as WATER SERVICE CONNECTION (LONG) up to 2" diameter. Sod, Pavement, Sidewalk, or Driveway replacement shall be paid for separately.

WATER SERVICE CONNECTION, *of type specified* shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, labor, and equipment required for: site preparation, including removal, replacement and/or repair of fences and other site objects; excavation, including removal and disposal of existing pipes, structures, and excess excavated materials; protection, support and repair of damage to existing utilities; support of installation pit walls; shoring and bracing; dewatering of installation pits; augering/boring/jacking of new service line, extending new services from the new water main to the new service box to be installed in the parkway; new curb boxes, couplings, fittings, joint materials, corporation stops, curb stops, service piping, and buffalo boxes; machine tapping of holes into new water main; supply backfill material, backfill placement, compaction and compaction testing; disinfection; testing; correction of defects; and other related work required to complete the installation which is not included under other Payment Items.

EXTRA DUCTILE IRON FITTINGS AND ACCESSORIES

This work shall consist of furnishing of various approved types of ductile iron water main fittings needed to construct water main that has been changed from the proposed alignment by the engineer, resulting in an increase in water main fittings.

EXTRA DUCTILE IRON FITTINGS AND ACCESSORIES shall be paid for at the contract unit price per POUND, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

EXAMPLE: If the plans indicate a 90 degree elbow but a plan change by the engineer results in two 45 degree bends, the Contractor shall be paid the difference in weight between the elbow and the two bends to furnish the extra materials.

ADJUSTING WATER SERVICES

This work shall be paid for at the Contract unit price per LINEAR FOOT for ADJUSTING WATER SERVICES up to 2 inches in diameter, measured in the field. These Contract unit prices shall be payment in full for all materials, labor and equipment required for: site preparation; the cost of all joint materials; all connections; excavation; disposal of excess excavated materials; bedding; installation, including connections to existing systems; backfill placement, compaction and compaction testing; machine tapping of holes into pipe; system components, including wyes, tees, adapters, couplings, bends, concrete encasement, service line sleeves, pipes and tubing; testing; correction of defects; and other related work required to complete the installation which is not included under other Payment Items. The Contractor is advised that specific liquidated damages apply to disruptions of individual water and sanitary services.

This item shall not include the cost of pavement, sidewalk, driveway, and curb/gutter removal and disposal within the pay limits shown on the Drawings. Roadway, sidewalk, driveway, and curb/gutter removal/ replacement within pay limits or as directed by the Engineer shall be paid for in accordance with the appropriate Pay Items.

Roadway, sidewalk, driveway, and curb/gutter removal/replacement outside the pay limits shown on the

Drawings required for completion of the Work or for Contractor's purposes shall be incidental to the relief sewer and/or water main construction and no separate payment shall be made.

ABANDON WATER MAIN

This work shall consist of filling existing water main to be abandoned with Controlled Low-Strength Material (CLSM) "flowable fill" after it has been removed from service. It is the intention to use this item for all existing water mains to be abandoned which are located within roadway pavements and within CCHD and IDOT right-of-ways. Flowable fill shall meet all requirement set forth in the IDOT Standard Specifications. This work will require placing the flowable fill under pressure in order to fill all voids in the existing water main. The contractor shall submit a plan to complete this work to the engineer for approval prior to start of construction.

ABANDON WATER MAIN shall be paid for as CONTROLLED LOW-STRENGTH MATERIAL at the contract unit price per CUBIC YARD (CU YD), which shall be full compensation for all materials, equipment, filling points and labor necessary to complete the work.

PRESSURE CONNECTION

This work shall consist of furnishing and installing all equipment necessary to complete a pressure connection to an existing water main at normal operating pressure with no interruption in service to existing main. Construction shall conform to Section 46 of the Standard Specifications of Water and Sewer Main Construction, except that tapping saddle/sleeve fittings and equipment shall be stainless steel.

PRESSURE CONNECTION, *of size specified* shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work. 6"x6", 20"x8" and 20"x12" pressure connections shall respectively be in 60", 72" and 72" diameter vaults. Valve vaults and frames and closed lids shall be of the size and type indicated on the plans and shall be included in the price for PRESSURE CONNECTION, *of the size specified.*

CONNECTION TO EXISTING WATER MAIN

This work shall consist of all labor, material, and equipment required to connect the proposed water main to the existing main at locations indicated on the Plans of the size specified. The work shall include, solid sleeves, excavation, concrete blocks beneath the connection point, and legal disposal of all excess material. Trench Backfill will be paid for separately under the TRENCH BACKFILL pay item. Connection of ductile iron water main to existing cast iron water main will require the use of a Tyler Long Pattern Duo Solid Sleeves. The use of 441 Transition Couplings will not be allowed. Capping the existing main to be abandoned will be paid for separately.

After pressure testing, chlorination, and all service transfers have been completed, the existing main shall be shut down and the connections shall then be completed. Because these connections cannot be pressure tested or chlorinated, the Contractor must swab all pipe fittings with a 2% hypochlorite solution using **a new clean long-string mop**, and the new section of water main must be pressurized prior to backfilling.

This pay item is intended for use for **ALL** connections to existing. All connections shall be MJ. A tee fitting being cut into an existing main for a hydrant lead will have two connections to existing water main. This pay item also includes the removal of the existing main as necessary to install the proposed improvements as shown on the plans. All ductile iron pipe will be paid for separately to the connection point at the existing main. All required fittings and bends will be paid for as outlined in the ductile iron water main pay item.

This work will be measured and paid for at the contract unit price per each for CONNECTION TO EXISTING WATERMAIN which payment shall include all fittings, materials, labor, tools and incidentals to connect proposed water main to the existing water system.

DUCTILE IRON WATER MAIN IN CASING (CLASS 52), SPECIAL

This work shall consist of furnishing and installing water main inside casing pipe for crossings under sewers. Any joints within the casing pipe shall be Field Lok 350 by US Pipe or approved equal. The water main shall be installed within the casing in such a manner so that the pipe shall be electrically isolated from the casing pipe. See plan detail for additional requirements.

This work shall be measured and paid for at the Contract unit price per foot of the diameter specified for DUCTILE IRON WATERMAIN IN CASING (CLASS 52), of the size specified, Special.

STEEL CASING PIPE AUGER AND JACK 20"

This work shall consist of jacking 20" I.D. steel casing pipe with a boring auger rotating within the pipe to remove the spoil in conformance to line and grade as shown on the plans or as directed by the Engineer and with Section 20-2.19 of the Standard Specification for Water and Sewer Main Construction in Illinois. Water main installed within the casing pipe will be paid for separately and shall be DUCTILE IRON WATER MAIN RESTRAINED JOINT TYPE

STEEL CASING PIPE AUGER AND JACK 20 IN shall be paid for at the contract unit price per FOOT, which shall be full compensation for all materials, equipment, spacers, equipment, labor & materials necessary to complete the work.

CASING PIPE FOR WATER MAIN

This work shall consist of supplying and installing steel casing pipe of the inside diameter size as specified around water main pipe where the minimum IEPA separation standards can't be achieved. This work shall be installed where specified on the plans or as directed by the Engineer. Water main installed within the casing pipe will be paid for separately.

CASING PIPE FOR WATER MAIN, *of size specified* shall be paid for at the contract unit price per FOOT, which shall be full compensation for all materials, equipment, spacers, equipment, labor & materials necessary to complete the work.

CASING PIPE FOR WATER SERVICES

This work shall consist of supplying and installing steel casing pipe of the inside diameter size as specified around water services where the minimum IEPA separation standards can't be achieved. This work shall be installed where specified on the plans or as directed by the Engineer. Water services installed within the casing pipe will be paid for separately.

CASING PIPE FOR WATER SERVICES, *of size specified* shall be paid for at the contract unit price per FOOT, which shall be full compensation for all materials, equipment, spacers, equipment, labor & materials necessary to complete the work.

TEMPORARY PAVEMENT

This work shall consist of installing temporary pavement as required by the Engineer for water main installations that cross travel lanes to be kept open to the public. The temporary pavement shall be a minimum 4" hot-mix asphalt surface course installed in two lifts and compacted per IDOT specifications.

This item includes all costs associated with installing and removing the temporary pavement. The Contractor is responsible for maintaining the temporary pavement and replacing failed sections as required by the Engineer. Replacing failed sections of temporary pavement the Contractor has installed shall be considered incidental to this pay item.

When the hot mix asphalt plants are not open and temporary pavement is required the Contractor shall install a minimum 8" of PCC. The concrete shall be reach a minimum 3,500 psi at 14 days and shall be steel plated until the concrete is cured. The Contractor may use IDOT PV type III or IDOT PV mixes for the temporary pavement.

Payment for TEMPORARY PAVEMENT shall be for at the contract unit price per SQ YD, which shall be full compensation for all labor, materials, disposal and equipment necessary to complete the work as specified.

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EXPLORATORY TRENCHES UP TO 10 FEET

The Contractor shall excavate exploration trenches where he deems necessary to confirm the locations and/or sizes of existing utilities. Exploration trenches shall be excavated using methods minimizing possible damage to the utilities. Following completion, trenches shall be backfilled in accordance with the contract documents and temporary paving provided as necessary and as directed by the Engineer. Exploration trenches dug by the Contractor for his own purposes shall be incidental to construction and no separate payment shall be made.

If, during the exploratory excavation process, utilities are uncovered which cause interference with the Work, the Contractor shall stop all affected work and immediately notify the Engineer.

The Engineer may also request that the Contractor excavate exploration trenches in the Project area. Exploration trenches requested by the Engineer and temporary pavement required to restore those trenches shall be paid for in accordance with this pay item.

EXPLORATORY TRENCHES ordered by the Engineer will be measured for payment per EACH actual trench excavated and backfilled to the depth specified. This work will be paid for at the Contract unit price per each EXPLORATORY TRENCHES UP TO 10 FEET DEEP.

Each unit of exploration trenches shall be up to 25 feet in length. These Contract unit prices shall be payment in full for all labor, materials, and equipment required for: pavement saw-cutting, removal, and disposal; excavation; protection of existing utilities and repair of damage to existing utilities; backfilling materials, compaction, and compaction testing; top soil placement and sodding in lawn areas; site clean-up; and all other related work required which has not been included in other Payment Items.

The Contract unit prices for exploration trenches shall not include temporary pavements. Installation of temporary pavements to restore surfaces shall be paid for under the appropriate pavement Payment Items.

BUFFALO BOXES TO BE REMOVED

This work shall also consist of all work necessary to remove and fill existing water buffalo boxes so designated on the plans or by the engineer. The term "fill" shall consist of removing the top section of the buffalo box and filling the remainder of the structure with materials as specified.

All pavements will be sawed to a full depth prior to any removal operation. Structures in private paved areas, parkways and other grassed areas shall be removed a minimum of 2-feet below final grade and structures in public streets shall be removed a minimum of 3-feet below final grade. Remaining portions of existing structures may be filled with sand trench backfill (FA-6) material in accordance with the contract documents or may be filled with CLSM material, at Contractor's option. The remainder of the excavation shall be backfilled in accordance with the contract documents. Sod, Pavement, Sidewalk, or Driveway replacement shall be paid for separately.

BUFFALO BOXES TO BE REMOVED shall be paid for at the contract unit price per EACH, which shall be full compensation for all materials, equipment and labor necessary to complete the work.

TREE PROTECTION
SECTION 02070

PART I - GENERAL

1.01 DESCRIPTION

A. General

1. The Contractor is responsible for ensuring the ongoing protection of all landscaped areas within the scope of work, including adjacent areas that may be impacted including access and egress routs. Existing landscaping including trees, shrubs, lawns, planting beds, etc. shall be adequately protected by the Contractor so as to avoid destruction and/or damage as a result of operations by the Contractor.
2. Before beginning work, the contractor will be required to meet with the Landscape Architect or Village Staff at the site to review all work procedures, access routes, storage areas, and tree and landscape protection measures.
3. Any proposed changes to agreed-upon work procedures, access routes, storage areas, and/or tree and landscape protection measures must be reviewed and approved by the Landscape Architect or Village Staff prior to implementation of any proposed changes.

1.02 TREE AND LANDSCAPE PROTECTION ZONES

A. General

1. The location, limits and extent of tree and/or landscape protection zones are to be determined by the plans, specifications and in the field by the Landscape Architect
2. Driving, parking, dumping, stockpiling and/or storage of vehicles, equipment, supplies, materials, debris, spoils, waste or washout water within tree and/or landscape protection zones is strictly prohibited.
3. All underground utilities, drain and/or irrigation lines are to be routed OUTSIDE the landscape protection zone. If underground lines must traverse the protection area, they shall be tunneled or bored below the root zones.

B. Tree and Landscape Protection Fencing

1. Tree and/or landscape protection zones are to be enclosed by 4 ft. high orange plastic construction fencing secured to steel posts on max. 8 ft. spacing
2. All tree and landscape protection fencing must be in place prior to any work being performed on site, including delivery of materials or supplies, vehicular traffic, installation of security fencing, etc.
3. Tree and landscape protection fencing is to be maintained intact, by the Contractor, throughout the duration of the work and until all site work has been completed. Removal or relocation of protection fencing must be approved by the Landscape Architect or Village Staff. Fences may NOT be relocated or removed without the written permission of the Landscape Architect or Village Staff.

1.03 TREE AND LANDSCAPE DAMAGE

A. General

1. Trees, shrubs, lawns and/or other landscaping destroyed or damaged by the actions of the Contractor or any of the Contractor's subcontractors or agents shall be replaced or restored to its previous condition, including repair of ruts, new topsoil and regrading, at the sole expense of the Contractor, to the standards of work set forth in these specifications and to the satisfaction of the Village. All repaired lawn areas are to be sodded.

2. Examples of landscape violations include, but are not limited to:

a. Failure to erect and/or maintain landscape protection fencing.

b. Storage or dumping of materials, equipment or debris within landscape protection zones.

c. Driving and/or parking on non-paved surfaces, particularly under trees and/or on lawn areas.

d. Damage to trees, shrubs, lawns, planting beds and other landscape elements caused by the action, or consequence of an action, by the Contractor or any of the Contractor's subcontractors or agents.

e. Pruning of trees, branches, limbs or other woody material by any personnel other than a Certified Arborist.

5. Damage Liability

a. When damage to Village property has been documented, the Village may assess monetary damages against the Contractor in an amount which represents the estimated cost to the Village, as determined by the Village to repair, replace or otherwise remediate damage done to Village property by the Contractor.

B. Damage or Injury to Trees

1. Damage or injury to trees includes, but is not be limited to: breakage, gouging, stripping, skinning, inappropriate pruning or cutting to bark, limbs, branches, trunks and/or roots, and/or compaction, dumping or flooding of roots or root zones.

PART III - EXECUTION

3.01 TREE AND LANDSCAPE PROTECTION ZONES

A. General

1. The location, limits and extent of tree and/or landscape protection zones are to be determined in the field by the Landscape Architect prior to any work being performed.

2. All tree and landscape protection zones must be identified and all fencing or other approved measures in place prior to any project-related activity being performed on site, including delivery of materials or supplies, vehicular traffic, installation of security fencing, etc., and must be maintained intact throughout the duration of the work.

B. Tree and Landscape Protection Fencing

1. Materials

   a. Fabric: To be 4 ft. high orange plastic construction fencing, securely fastened to posts with durable ties.

   b. Posts: 6 ft long steel post, to be installed on maximum 8 ft. spacing, driven 2 feet into the ground; final orientation to be straight and plumb.

2. Fencing is to completely enclose all protected zones.

3. Fencing is to be maintained intact at all times. Fencing will not be considered intact if fabric is missing, torn, or no longer attached to posts, posts are bent, broken, missing or otherwise non-functional, or if any other circumstances are present which compromise the integrity of the protection zone.

C. Temporary Access Over Root Zones

1. Approved temporary haul or access routes are to be constructed of a 6-inch thick layer of an approved cushioning material, such as shredded mulch or non-limestone gravel.

2. The material, location and route of the temporary "access route" must be approved by the Village prior to any work being performed.

3. Delivery of the cushioning material to the "access route" location and installation of the cushioning material must be done either by hand or with small bobcat-type machines to prevent compaction of the root zones.

4. The cushioning material shall be replenished as necessary to maintain a uniform 6-inch depth.

5. Removal of the cushioning material must be done either by hand or with small bobcat-type machines. All of the material must be completely removed. Where small machinery is used to remove the bulk of the material, removal of material in contact with the soil surface must be done by hand, and in such a way as to minimize disturbance of the soil surface and prevent damage to surface or feeder roots.

3.02 TREE AND LANDSCAPE PROTECTION DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES

A. General

1. The Contractor is required to meet with the Landscape Architect at the site prior to beginning work to review all work procedures, access and haul routes, and tree and landscape protection measures.

2. The Village shall be on site during all operations within protection zones. 24-hour notice must be given to Village, requesting his presence for work scheduled within the tree protection zone.

3. Work determined to have occurred within protection zones without the presence and approval of the Landscape Architect will be considered a violation of the Contractor's Contract with the Village.

4. Any damage to trees due to the Contractor's activities shall be reported to the Landscape Architect within 24 hours so that proper remedial action can be taken.

B. Staging and Work Activities

1. No grade changes, including cutting (soil removal) or filling (deposition of soil) will be allowed within tree protection zones or on the root zones of trees.
2. Demolition, removal, repair, construction or other work on structures or underground features within protection zones shall be accomplished using the smallest equipment possible, operated from outside the protection zone.
3. Temporary vehicle clearance:
    a. Where temporary clearance is needed for access, tree branches shall be tied back to hold them clear of the clearance zone. Tie backs shall be done in such a manner as to prevent any cracking or breakage of branches or skinning of bark.
    b. All tree pruning required for clearance during construction must be approved by the Landscape Architect. All pruning is to be performed by a Certified Arborist.
4. Chemical treatments
    a. All herbicides, insecticides, pesticides or other chemicals proposed for use on the project site must be safe for use around trees, not easily transported by water, labeled for the use intended and approved for use by the Landscape Architect.
    b. All chemicals used on the project site must be used and disposed of according to the labeled directions. Landscape damage resulting from improper use or disposal will be considered a violation of the Contractor's Contract.
5. Spoil from trenches, basements, or other excavations shall not be placed within tree protection zones, either temporarily or permanently.
6. No burn piles or debris pits shall be placed within tree protection zones. No ashes, debris, or garbage may be dumped or buried within the tree protection zone.

C. Tree Removals

1. All trees to be removed from within the project area shall be removed by a Certified Arborist.
2. Trees shall be cut near ground level and the stump ground out to a clear depth of eighteen inches below grade, or as otherwise specified.
3. Trees to be removed from project areas not within tree protection zones must be felled and removed in such a way as to avoid damage to trees(s) and understory to remain.
    a. Tree(s) to be removed which have branches extending into the canopy of tree(s) to remain must be removed in a manner that causes no damage to the branches, limbs, trunk or bark of trees(s) and understory to remain.
    b. Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Landscape Architect may require first severing the major woody root mass before extracting the trees. This may be accomplished by cutting through the roots by hand, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other root-pruning equipment as approved by the District Forester.
    c. Extraction of downed trees within protection areas shall occur by lifting the material out either by hand or with equipment staged outside the tree protection zone. Dragging or skidding across the ground will not be permitted.

D. Pruning

1. All pruning shall be performed by a Certified Arborist.
2. Standards
   a. All pruning shall be in accordance with the Tree Pruning Guidelines (International Society of Arboriculture) and/or the ANSI A300 Pruning Standard (American National Standard for Tree Care Operations) and adhere to the most recent edition of ANSI Z133.1
   b. Guidelines:
      1) Interior branches shall not be stripped out.
      2) Pruning cuts larger than 4 inches in diameter, except to remove dead wood, shall be avoided.
      3) Pruning cuts that expose heartwood shall be avoided whenever possible.
      4) No more than 20 percent of the foliage shall be removed within any single tree.
3. Root Pruning
   a. Any grading, construction, demolition, or other below-ground work which may reasonably be expected to encounter tree roots must be monitored by the Village
   b. All root pruning is to be performed by a Certified Arborist.
   c. Before grading, excavation or trenching for project work adjacent to tree protection zones, trees shall be root pruned to a depth of 24 inches as follows:
      1) A 24" deep trench shall be manually dug one (1) foot outside the tree protection zone perimeter.
      2) As roots are exposed, they shall be cleanly cut with a hand saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other root-pruning equipment approved by the District Forester.
   d. Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

E. Brush Removal

1. Any brush clearing required within the tree protection zone shall be accomplished with hand-operated equipment.
2. Removal of all downed brush within protection areas shall occur by lifting the material out either by hand or with equipment staged outside the tree protection zone. Dragging or skidding across the ground will not be permitted.
3. Where approved by the Landscape Architect, brush removed from the project site may be chipped and chips spread underneath trees within the tree protection zone to a maximum depth of 6 inches, leaving the trunks clear of mulch.

3.03 CLEAN-UP AND DISPOSAL

A. General

1. Upon completion of work, the Contractor is responsible for ensuring that all landscaped areas within the scope of work, including adjacent areas that may have been impacted, are clean and free of trash or debris.

2. All landscaped areas are to be restored to their previous condition, to the satisfaction of the Owner's Representative and Owner.
3. All excess material, debris and/or waste generated by the Contractor's operations is to be disposed of properly, off property, by the Contractor.

4.01 BASIS OF PAYMENT

A. General

This work shall be paid incidental to work included in MOBILZATION.

END OF SPECIFICATION 02070

SECTION 02910

SOIL PLANTING MIXTURE

PART 1 - GENERAL

1.01 DESCRIPTION

A. Section Includes:

1. Preparation of soil planting mixtures in landscape planting beds and plant pits.

1.02 RELATED WORK

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and all other Divisions of the Project Manual, apply to the Section.

1.03 QUALITY ASSURANCE

A. Qualifications

1. The contractor shall be a company specializing in landscape construction with a minimum of five (5) years of experience on comparable projects.

B. Code and Standards Compliance

1. All materials and work shall comply with applicable codes, standards and with the requirements of local agencies. The Contractor shall obtain all permits required.

1.04 SUBMITTALS

A. Topsoil

1. Submit 1-quart samples of soil planting mixture materials and soil planting mixture with all ingredients combined in proper proportions in preparation of the soil planting mixture for review.
2. Submit 1-quart sample of compost material.

B. Code and Standards Compliance

1. All materials and work shall comply with applicable codes, standards and with the requirements of local agencies. The Contractor shall obtain all permits required.

1.04 SUBMITTALS

A. Topsoil Data

1. Provide to the Owner's Representative and Owner the location(s) and name(s) of topsoil sources from which supplemental topsoil is to be obtained for the project, approximate quantities obtained at each site, depth at which soil was taken and indicate whether and when crops had been grown on site(s).

B. Soil Testing

1. The Contractor shall provide soil tests of topsoil from off-site sources prior to delivery to the site. Employ an independent testing lab that uses methods approved by the Association of Agricultural Chemists to test two (2) samples of proposed supplemental topsoil. Submit a report to the Owner's Representative and Owner containing soil tests, lab analysis stating whether topsoil meets specification requirements and lab suggestions for amendment. The Owner's Representative and Owner will specify soil amendments required to be furnished at no additional cost to Owner.

2. Soil Tests

a. Chemical Analysis: include pH, Cation Exchange Capacity (CEC), Organic Matter (OM), phosphorus, potassium (K), soluble salts, essential nutrients and any harmful chemicals.
b. Mechanical Analysis: include percentage of sand, silt and clay.
c. Lab recommendations for amendments.

C. Other Samples

The following materials shall be submitted to the Owner's Representative and Owner for approval prior to delivery to the site.

1. Submit 1 quart samples of soil planting mix materials: topsoil, compost and sand to be used in preparation of the soil planting mix for review.

2. Submit manufacturer's data for fertilizers and amendments recommended by the soil testing analysis.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Soil Planting Mixtures

1. Coordinate and store soil planting mixture at pre-approved staging areas. Inform the Owner's Representative and Owner of all delivery schedules, twenty-four (24) hours in advance of delivery.

2. Soil planting mixture, which in any way fails to meet the requirements of these specifications will be rejected, and the Contractor shall immediately remove such material and supply suitable mixture in its place.

3. No deliveries will be permitted when weather conditions are unsatisfactory, or if the approved staging area is not in a satisfactory condition. No frozen material will be accepted. Do not deliver or handle soil in wet, muddy or frozen conditions. Protect stockpiles from winds and disturbance with landscape fabric or other material.

B. Other Materials

1. Handle and store all other materials according to manufacturer's recommendations.

1.06 JOB CONDITIONS

A. General

1. Prior to beginning work, the Contractor shall examine and verify the acceptability of the job site and notify the Owner's Representative and Owner of unsatisfactory conditions. The Contractor shall not proceed with the work until unsatisfactory conditions have been corrected or resolved.

2. Where soil preparation occurs in close proximity to other site improvements, adequate protection shall be given to all features prior to commencing work. Any items damaged during soil preparation operations shall be promptly repaired to their original condition at no additional cost to the Owner.

B. Availability of On-Site Topsoil

1. Stripped and excavated topsoil from on-site may be used at or below existing finished grades and below new soil planting mixture.

C. Utilities

1. Have all underground utilities located by servicing agencies. In the vicinity of utilities, hand excavate to minimize the possibility of damage to underground utilities.

D. Excavation

1. When conditions detrimental to plant growth are encountered such as limestone, rubble fill, adverse drainage conditions, or obstruction, notify the Owner's Representative and Owner prior to placement of any soil.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General Materials

1. Topsoil

a. Topsoil shall come from approved off-site source(s).

b. Topsoil shall meet the following requirements:

(1) Be uniform in color and texture; corresponding to native soils; containing no gray clay, and free from grass roots, sod, weeds, rocks, stiff clay, clods, or any other substance undesirable to plant growth.

(2) The soil shall be loose, friable, and of good tilth.

(3) When the topsoil has been dried at room temperature (70 degrees F.) and the lumps gently disintegrated in a mortar with a wooden pestle, the residue retained on a standard No. 8 sieve shall not be more than 5% by weight. After the removal of material coarser than passing a No. 8 mesh, the topsoil shall conform to the following textural grades:

Fine gravel, course sand, medium sand	20-40 percent
Silt	25-60 percent
Clay	5-25 percent

Topsoil shall not be alkaline to litmus paper, and when dried thoroughly at 230 degrees F., the screened soils upon ignition shall lose in weight not less than 10% not more than 20%. The mechanical analysis will be made as stated in ASTM D 422. The pH shall be between 5.0 to 8.0.

c. Provide to the Owner's Representative and Owner the location(s) and name(s) of sources from which off-site topsoil is to be obtained for the project, approximate quantities obtained at each site, depth at which topsoil was taken and whether crops had grown on the site(s).

2. Sand shall be clean, sharp, course sand passing 1/4Ó mesh screen and free of foreign and organic matter. The pH shall range between 5.5 and 6.5.

3. Compost shall be finely shredded, homogenous, decomposed mushroom compost, suitable for horticultural purposes.

B. Soil Planting Mixtures

1. All tree pits shall be backfilled with a soil planting mixture. All soil mixtures shall be mixed with amendments and other materials by hand or mechanical methods prior to placement.

C. Fertilizer

1. Fertilizer shall be a complete fertilizer such as PAREX Starter or approved equal, of which part of the elements are derived from organic sources. Analysis shall be of a 10-10-10 (N-PK) analysis.

PART 3 -EXECUTION

3.01 PREPARATION

A. Protection of Site Improvements: Protect all existing site improvements during excavation. If any existing improvements are damaged, replace or make arrangements with the proper authorities for repair.

3-02 PERFORMANCE

A. Planting Preparation: Prior to installation of any plant material, ensure all plant pits and planting beds are free of debris and not in a muddy condition prior to backfill with specified soil planting mixture. Loosen the bottom of the pit or bed and ensure that all stones larger than 1" diameter and all limestone have been removed from the subgrade to a depth as indicated on the soil plan or as detailed in the drawings.

B. Landscape Excavation and Backfill

1. Excavate planting areas and pits as indicated on the drawings:
2. Compact subgrade in perennial plant beds to 75% and in planting beds to 85% proctor density. Where pavement and other structures have been removed, bring planting bed to sub-grade with suitable subgrade fill.

Part 4 - Measurement and Payment

4.1 Measurement and Payment

A. The following items shall be incidental to the tree pay contract line items and shall include all labor, materials, and equipment necessary to perform the work as herein specified.

END OF SECTION 02910

SECTION 02930
TREES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Installation, maintenance (during guarantee period) and warranty of all trees as indicated on the plans and specified herein.

1.2 RELATED WORK

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and all other Divisions of the Project Manual, apply to the Section.

1.3 QUALITY ASSURANCE

A. Qualifications

1. The Contractor shall be a company specializing in landscape installation with a minimum of five (5) years of experience on comparable projects.

B. Code and Standards Compliance

1. All materials and work shall comply with applicable sections of the following references:

a. American Association of Nurserymen, Inc. (MN) Standard: American Standard for Nursery Stock (ANSI Z60-.1 -1990)
b. Hortus Third, Cornell University, 1976
c. Standardized Plant Names, latest edition by the American Land Committee on Horticultural Nomenclature.

C. Source Quality Control

1. Certification:

a. All landscape materials shall be from stock inspected and certified by authorized governmental agencies. The stock shall comply with governmental regulations prevailing at the supply source and the job site.

2. Analysis and Standards:

a. Products packaged in sealed containers shall be labeled with manufacturer's certified analysis. The composition of bulk materials shall be tested by an approved laboratory in accordance with procedures established by the Association of Official Agricultural Chemists, wherever applicable, or as specified by product specifications referenced herein.

3. Plant Material Selection:

a. Plant materials must be supplied by a nursery(ies) located in Northern Illinois (north of Peoria) and be licensed by the State of Illinois.
b. Prior to digging and shipment by the nursery, plant materials shall be tagged by the contractor or nursery for inspection and approval by the Landscape Architect of Record. Notify the Landscape Architect of Record of locations of tagged material at least four weeks prior to scheduled digging. Landscape Architect review of material will be for aesthetic form only. All other plant requirements remain the responsibility of the Contractor.
c. If Landscape Architect is unable to field review, then the Contractor shall provide a good quality photo of each type of plant specified indicating the aesthetic form to be typically provided, as initially approved by the Landscape Architect.
d. Acceptance of photos by Landscape Architect does not exempt plants from Landscape Architect/Project Engineer final approval (for aesthetics) when delivered to job site.

D. Substitutions

1. If, after reasonable search by the Contractor, specified landscape material is not obtainable, notify the Landscape Architect/Project Engineer, who will identify alternate sources or substitutes. Substitutions made shall not affect the Base Contract Price. If substitutions are smaller in size than the specified material, credits to the Base Bid Contract will be made based on comparable cost differentials customary for materials and sizes involved.
2. Plants shall be supplied at the minimum sizes specified. Plants larger than the minimum size may be used upon approval of the Landscape Architect/Project Engineer.
3. Container plants may be substituted for those designated "B & B" only if approved by the Landscape Architect/Project Engineer.

1.4 SUBMITTALS

A. Samples: Representative samples of the following materials shall be provided from the supply source being used:

1. Hardwood Bark Mulch: Five-pound sample
2. Mushroom Compost: One (1) quart
3. Tree Wrap: two (2) linear foot sample.
4. Soil Planting Mixture Sample: One (1) quart of soil mix.
5. Fertilizer.
6. Staking and guying material.

B. Certification

1. Phytosanitary Certification

a. All plant material inspection certificates required by federal, state or other governing authorities will accompany each shipment and be turned over to the Landscape Architect/Project Engineer upon delivery.

2. Delivery Tickets

a. Freight bill/ticket for each shipment of plants shall be submitted to the Landscape Architect/Project Engineer at time of delivery. Ticket shall indicate source, date, address and phone number of source of materials. Ticket shall also indicate project's name and Landscape Architect's project number.

C. Toxic Chemicals

1. Submit manufacturer's data for all products, areas of application, and anticipated uses of pesticides, herbicides, and fumigants.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. General

1. Notify the Landscape Architect/Project Engineer forty-eight hours in advance of all delivery times for plant material.
2. Store materials only in locations approved by the Landscape Architect/Project Engineer.

B. Packaged Materials

1. Deliver packaged materials in unopened containers showing weight, analysis, and name of manufacturer. During shipment and storage on site, protect materials from breakage, moisture, heat, or other damage and according to manufacturer's recommendations.

C. Plant Materials

1. Schedule shipping to minimize on site storage of plants. Stock shall not be shipped until the planting preparations have been completed.
2. Label the size and variety of each different named plant and securely attach to an individual plant or to bundles of like variety and size.
3. During shipment, plants shall not be bent, stacked, or bound in a manner that damages bark, breaks branches, deforms root balls, or destroys natural shape.
4. Plant material shall be transported within enclosed trailers or covered by tarpaulin to protect the material from damage caused by drying winds, heat, freezing, or other exposure that may be harmful to the plants. Plant material arriving at the site in a damaged condition shall be rejected and removed from the site.
5. If delays beyond the Contractor's control occur after delivery, plants shall be kept watered and protected from sun, wind, and mechanical damage; root balls shall be covered with topsoil or mulch. Container-grown stock shall not be removed from containers until planting time. Keep the roots constantly moist until planted.
6. Handle plants at all times in accordance with the best horticultural practices. Lift B & B materials from the bottom of the ball only. Balled and burlapped plants which have cracked or broken balls or have had excessive force applied in any way to the trunk are not acceptable and shall be replaced.

1.6 JOB CONDITIONS

A. General

1. Prior to beginning work, the Contractor shall examine and verify the acceptability of the job site and notify the Landscape Architect/Project Engineer of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected or resolved.
2. Where planting occurs in close proximity to other site improvements, provide adequate protection for all site areas prior to commencing work. Any items damaged during planting operations shall be promptly replaced or repaired to their original condition at no addition to the Base Contract Price.

B. Utilities

1. All underground utilities shall be located by servicing agencies. Excavation for planting in the vicinity of utilities shall be done by hand to minimize the possibility of damage.

C. Excavation

1. When conditions detrimental to plant growth are encountered, such as limestone, rubble fill, adverse drainage conditions, or obstructions, notify the Landscape Architect/Project Engineer before any planting activities.

D. Planting Season

1. Plant material shall be dug and planted only during the planting season appropriate for each individual plant species. Pre-digging of plants with proper storage may extend the planting season. However, the installation of plant material outside the normal planting season shall be done only with the approval of the Landscape Architect/Project Engineer.

E. Work Schedule

1. Upon authorization to proceed with the work, a project work schedule indicating the dates of each of the following items will be prepared by the Contractor and submitted to the Landscape Architect/Project Engineer:

   a. Tagging of plant material in nurseries.
   b. Staking of plant locations on the site.
   c. Digging and preparation of plant pits and beds.
   d. Delivery of plant material to the site.
   e. Planting schedule
   f. Substantial completion of the work.

F. Coordination with Other Work

1. Proceed with complete landscape work as rapidly as portions of the site become available, working within the season limitations for each kind of landscape work required.

1.7 GUARANTEE

A. General

1. Warrant all plant material to be true to botanical name and of specified size.
2. All dead or damaged plant material shall be removed of all work under this Contract.
3. After receiving notice of Project Acceptance, all plant materials shall be maintained in a vigorous condition and warranted against defects including death, improper maintenance, and unsatisfactory growth, for 12 months following Project Acceptance.

B. Replacements

1. During the Guarantee Period, replace, at no additional expense to the Owner, plant materials that are dead or that are, in the opinion of the Landscape Architect/Project Engineer, in an unhealthy or unsightly condition, or that have lost their natural shape due to dead branches, excessive pruning, or inadequate or improper maintenance. Rejected plant materials shall be removed from the site and legally disposed of at no addition to the Base Contract Price.
2. Only one (1) replacement of any plant is required after Project Acceptance, except for losses or replacement resulting from failure to comply with specified requirements. However, all plant material shall be in a healthy and vigorous state of growth at time of project acceptance.
3. Replacement plants and planting operations shall be in accordance with the original specifications. Replacements shall be made no later than the next succeeding planting season. Fully restore areas damaged by replacement operations to their original and specified condition.
4. Replacement stock shall be obtained from the same plant material source as the original material.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Plant Material

1. Provide plant materials true to name and variety established by the American Joint Committee on Horticultural Nomenclature Standardized Plant Names", Second Edition, 1942, as indicated on the Drawings.
2. All planting stock shall be nursery-grown in accordance with good horticultural practice. Plants shall be free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injures, abrasions, or disfigurement. They shall be sound, healthy and vigorous, of uniform growth, typical of the species and variety, well formed, free from irregularities, with the minimum quality conforming to American Standard for Nursery Stock.
3. Plants indicated as "specimen plants" shall be exceptionally heavy, symmetrical, and tightly knit, cultured, to be unquestionably superior in form, branching, compactness, and symmetry.
4. The minimum acceptable sizes of all plants shall be measured before pruning and with branches in normal position. Unless otherwise designated on the Drawings, all plant dimensions shall conform to those listed in ANSI A60.1, American Standard for Nursery Stock.

a. Where height is indicated within a range, the smaller dimension is the minimum acceptable; the larger dimension represents the maximum permissible except with approval of the Landscape Architect of Record. The average dimension of all plants must at least equal the average of the height range specified.
b. Spread shall meet the minimum dimension specified in all directions and must be considered as pivoting on the center of the plant. Where range is shown between two (2) spread dimensions, the smaller dimension is the minimum acceptable. Spreads shall at least average on the average of the range indicated.
c. Caliper is the trunk diameter taken at a specified distance above root collar as described in ANSI Z60.1.
d. Branching point is the distance above ground where balanced branching occurs or where a dimension on trunk appears to form the head of the tree.

5. Root Treatment:

a. Root treatments on all plants shall conform to the requirements of ANSI Z60.1. Plants shall be dug and prepared for shipment in a manner that will not cause damage to branches, shape, and future development after planting.
b. Balled and burlapped ("B & B") plants shall have a firm, natural ball of earth of sufficient diameter and depth to encompass the fibrous and feed root systems necessary for full recovery of the plant. Ball shall be securely wrapped with burlap and bound with cord. Ball sizes shall meet the requirements of the ANSI Z60.1.
c. Plants furnished in containers shall have the roots well established in the soil mass and shall have grown in the container for at least one growing season. Containers shall be large enough to provide earth-root mass of adequate size to support the plant tops being grown. Plants, other than ground covers, over-established in the container, as evidenced by pot-bound root ends, will not be accepted.

6. Plant materials shall be subject to final approval by the Landscape Architect/Project Engineer at the site. The Landscape Architect/Project Engineer reserves the right to reject any plant material that does not meet project specifications at the time of planting.

B. Soil Planting Mixture

1. Soil planting mixture shall be as specified in specification Section 02910, Soil Planting Mixture.

C. Hardwood Bark Mulch

1. Mulch shall be finely shredded and processed composted hardwood bark, free from foreign material and debris.

D. Tree Wrap

1. Tree wrap shall be waterproofed bituminous impregnated crepe paper 2-1/2 (64 mm) inches wide, made up of two (2) layers of crepe. Landscape Architect of Record shall inspect tree trunk prior to placing tree wrap.

E. Fertilizer

1. Granular, natural organic, non-burning product composed of no less than 50% organic matter, slow release, low salt, guaranteed analysis professional fertilizer such a Milorganite Natural Organic fertilizer (6-2-0 Plus 4% Iron) or approved equal.

F. Herbicide

1. Pre-emergent herbicide shall be a product with a rate of application that conforms to registered uses and is applied by a licensed professional.

G. Mycorrhizal Fungi

1. Mycorrhizal Fungi with Rhizosphere Bacteria shall be as manufactured by PHC Tree Saver by Plant Health Care, Inc. or approved equal, apply product with a rate of application that conforms to registered uses and is applied by a licensed professional to trees and shrubs.

H. Guying and Staking Materials (Contractor's Option)

1. Stakes for tree support shall be hardwood free from knot, rot, cross grain or other defects that would impair strength. Stakes shall be pressure treated with pentachlorophenol, and a minimum of 2" by 2" in diameter by 8'-0" long and pointed on one end.
2. Ground anchors for guying shall be 2" x 2" x 3'-0" long wood stake, pointed on one end.
3. Guying wire shall be 12 gauge annealed galvanized steel.
4. Guying cable shall be a minimum of five strands, making a 3/16" diameter steel cable.
5. Hose chafing guards shall be new or used 2-ply, one half inch reinforced rubber or plastic hose and shall be the same color on the project. Length shall be one and one-half times the circumference of the plant at its base.
6. Survey flags to be fastened to guys shall be white plastic surveyor's tape, 6" in length.
7. Turnbuckles shall be galvanized or cadmium-plated steel and have a 3" minimum lengthwise opening fitted with screw eyes.

PART 3 - EXECUTION

3.1 PREPARATION

A. Layout

1. Plants indicated on the plans are approximate locations. Individual plant locations and limits of trees shall be staked on the project site by the Contractor and approved by the Landscape Architect/Project Engineer before any planting operations commence. All locations shall be staked at one time unless otherwise

approved by Landscape Architect/Project Engineer. The Landscape Architect/Project Engineer reserves the right to adjust plant material locations to meet field conditions and design intent, without addition to the Base Contract Price.

2. Accurately stake plant material according to the drawings. Stakes shall be approximately 1.5 inches x .75 inches x 4-foot length above grade, not painted, with plant designation and size labeled on stake.
3. If obstructions are encountered that are not indicated, do not proceed with planting operations until alternate plant locations have been selected and approved in writing by the Landscape Architect/Project Engineer. Where location or spacing dimensions are not shown, request clarification from the Landscape Architect/Project Engineer.

3.2 PERFORMANCE

A. General

1. Rocks/underground obstructions shall be removed and proper planting depths shall be established to conform with Soil Planting Mixture Section 02910. If underground utilities or other structural obstructions are encountered, alternate planting locations will be determined by the Landscape Architect/Project Engineer.

2. Plant Pit Excavation

a. Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with the specification and dimensions shown on the drawings.
b. If rotating augers or other mechanical diggers are used to excavate holes, the vertical sides of the pits shall be scarified, fractured, or otherwise broken down to eliminate impervious surfaces.
c. Loosen or scarify soil in the bottom of all plant pits to a depth of 4 inches.

3. Excavated material that does not meet specifications for soil planting mixture shall not be used for backfill or soil planting mixture in any planter or planting pit and shall be used as subgrade fill or removed from the site and legally disposed of.

B. Planting Operations

1. When the ground is frozen, no planting activities shall occur.
2. Use only balled and burlapped ("B & B") Trees:

a. Place approved soil planting mixture in the bottom of the pit to the depth necessary to set the plant to required grade, and then compact. Set the plant in the pit to the same relationship to the grade as in the original container or at the top of the burlap ball, faced to give the best appearance or relationship to one another and adjacent structures. Cut away burlap, rope, wire, or other wrapping materials 1/3 of the way from the top of the ball and remove from pit. Do not remove burlap or ties from sides or bottom of ball. If plastic wrap or other non-biodegradable materials are used in lieu of burlap, completely remove them before placing of backfill. Cleanly cut off broken or frayed roots. Place approved soil planting

mixture around the ball and carefully compact to avoid injury to the roots and to fill the voids. Apply fertilizer and mycorrhizal fungus at a rate recommended by the manufacturer. After backfilling soil planting mixture approximately two-thirds (2/3) full, add water and allow planting mixture to settle. After the water has been absorbed, fill the planting pit and tamp lightly to grade. Form a watering basin of the size indicated.

C. Mulching

1. Mulching shall take place within 48 hours after planting, using approved materials.
2. Mulch trees with hardwood mulch within the soil saucer to a depth equal to the depth of the saucer but not less than three (3) inches nor more than four (4) inches.
3. Mulch shall be kept out of the crowns of shrubs and off buildings, sidewalks, light standards, and other site improvements.
4. Form mulch rings around trees and large shrubs that are within turf areas. Keep mulch 4" away from tree trunk.

D. Pruning

1. General

   a. After planting, prune the branches of deciduous stock to balance the loss of roots in such manner as to retain the natural form of the plant type. Pruning shall be done by workmen experienced in this type of work. The Landscape Architect/Project Engineer shall approve pruning techniques and appearance before proceeding with all pruning.
   b. Trimmings shall be removed from the site and legally disposed of.

2. Trees

   a. Prune trees by removing all dead wood, badly formed, interfering limbs, and sufficient other growth to ensure healthy and symmetrical growth of new wood. Up to one-third of the branches may be removed. The proportion is, in all cases, subject to the approval of the Landscape Architect/Project Engineer. The central leader shall not be removed.
   b. In the case of multiple leaders, preserve the one which will best promote the symmetry of the tree, and remove or cut back the remainder so that they will not compete with the selected leader. Cut back surrounding top branches to conform to the leader.

E. Wrapping

1. The trunks of trees shall be wrapped immediately after planting (fall only) but not before the condition of the trunks has been inspected and approved by the Landscape Architect/Project Engineer.
2. Trees shall be wrapped in the specified material beginning at the base and extending to the first branches. The wrap shall be applied in a spiral manner with an overlap of one-half the width of the paper.
3. The wrapping shall be securely tied at the top and bottom and at 18-inch (45 cm) maximum intervals with twine.

4. Wrap shall be removed in the spring.

F. Other Procedures

1. Apply anti-transpirant to all broadleaf evergreen shrubs.

2. Staking and guying of trees shall only occur for plantings on slopes and is at Contractor's option. Tree bracing method shall be approved by Landscape Architect/Project Engineer.

G. Under no circumstances shall plant material with dead or dried leaves be installed on the project, even if due to seasonal conditions. All plant material shall have a "green," healthy leaf system or, be well into seasonal change, entirely devoid of leaves.

3.3 CLEAN UP AND PROTECTION

A. Clean Up

1. Excess and waste material shall be removed daily.
2. When planting in an area has been completed, the area shall be cleared of all debris, soil piles, containers and all paved areas swept.

B. Repairs

1. Any damage to existing landscape, paving, or other such features as a result of work related to this contract shall be repaired by the responsible Contractor to its original condition.

C. Protection

1. Protect landscape work and materials from damage due to landscape operations, operations by other Contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.

D. Remove all tree wrap, labels and seals one year after the date of substantial completion.

3.4 ACCEPTANCE

A. Project Acceptance

1. Project Acceptance for work under this Section 02930 shall occur when all work (all sections) required under this Contract has been completed in conformance with the Contract Documents. The Landscape Architect/Project Engineer shall provide written notification of Project Acceptance.

B. Inspections for Project Acceptance

1. Notification of Completion of Planting Work

a. Contractor shall notify the Landscape Architect/Project Engineer in writing of the completion of planting operations.

b. Within 10 days after notification of completion of work under this Section 02930, the Landscape Architect/Project Engineer will inspect the work and prepare a punch list of items that require completion or correction.
c. Contractor shall complete the work called for on the punch list prior to Final Inspection for Project Acceptance.

2. Final Inspection

a. The final inspection of all work under this Contract will be made by the Contractor and Landscape Architect/Project Engineer.
b. Before Project Acceptance will be made, the terms of the warranty shall be met and the site shall be in the condition stipulated under Final Cleanups.
c. When all work required under this Contract has been completed in conformance with the Contract Documents, the Landscape Architect/Project Engineer shall issue a written notice of Project Acceptance.

Part 4 - Measurement and Payment

4.1 Measurement and Payment

A. The landscape items shall be paid for at bid unit price each as indicated on the Bid Form and measured in place and such price shall include all labor, materials, and equipment necessary to perform the work as herein specified.

1. TREES

END OF SECTION

14-14-10 Site management standards.

The following site management standards shall apply to all work:

(A) Accessibility, parking and loading standards. No pavement or sidewalk within any public right-of-way shall be unavailable for public use at any time except when such pavement or sidewalk is removed and replaced. No such pavement or sidewalk that is removed and replaced shall be out of service for more than three days without the prior approval of the Community Development Department. No parking, loading, or storage of demolition debris, spoils, or construction materials shall be permitted within any right-of-way, on any public property, or within 10 feet of any right-of-way adjacent to public or private property unless specifically approved by the Village and shown on approved accessibility plans as required by Section 14-14-4 of this Code. The Village may prohibit parking in any particular location on a public right-of-way if the Village determines that such parking has an adverse impact on neighboring property or on traffic control. All uses of vehicles shall comply with applicable codes related to parking and time of operation of vehicles. All sidewalk construction and any other construction in the public right-of-way shall comply with the rules and regulations set forth in Chapter 6 of this Code in addition to any applicable requirements set forth herein.

(B) Particulate control during demolition. Airborne particles shall be controlled at the subject property at all times during demolition work by means of a water truck and spraying equipment or other water source capable of spraying and thoroughly saturating all portions of the structure and surrounding property affected by the work. Such spraying shall be undertaken at all times necessary to thoroughly control the creation and migration of airborne particles, including, without limitation, dust, from the subject property. The water source for control of airborne particles shall be either: (1) a water tanker truck with pump capacity of 100 gallons per minute at the nozzle; or (2) a public water hydrant. Water shall be delivered from the water source to the subject property by a hose with minimum diameter of 2 1/2 inches, which may be reduced to 1 1/2 inches when on the subject property. If a public water hydrant is used, a Village water meter and proper hydrant wrench must be obtained from the Public Works Department. Any hose leading from a public water hydrant that crosses a driveway, street, alley or other vehicular right-of-way must be bridged in a manner directed by the Public Works Department to adequately protect the Village water system and to prevent the creation of a tripping hazard for pedestrians.

(C) Dust control. All work undertaken pursuant to a building permit issued by the Village shall include protection against the migration of dust and other airborne particles from the subject property. Every construction site shall have a source of water and spraying equipment to control dust and other airborne particles. Except for sawing on top of a structure or within a framed structure, all outdoor sawing shall be undertaken within a specified location on the subject property. That specified location shall be protected against the migration of dust and other airborne particles by a solid barrier which shall be not less than six feet in height, shall extend not less than 180° around the specified area, and shall be positioned between the specified area and the nearest adjacent

property line. The solid barrier may be cloth, wood, plastic or other material impervious to dust and may be temporary in nature. In the event sawing operations are conducted with wet saws, the solid barrier that is otherwise required may be eliminated, however, all other requirements set forth herein shall apply. A solid, protective barrier shall also be provided for all sandblasting operations to protect against the migration of dust and other airborne particles from the subject property. The protective barrier for sandblasting operations shall extend around all sides of the area being sandblasted. The solid protective barrier may be cloth, wood, plastic or other material impervious to dust and may be temporary in nature. The solid, protective barrier shall be in place at all times sandblasting operations are being undertaken.

(D) Gravel mat. When determined by the Community Development Director to be appropriate and practicable, the applicant shall cause a gravel mat to be installed on the subject property of a size and in a location sufficient to wash down all vehicles used on the subject property and to cause dirt and mud to be removed from the tires of such vehicles. The gravel mat shall be located so as not to interfere with any use by the public of public rights-of-way and not to cause any nuisance or inconvenience to adjacent public or private property. An existing asphalt or concrete driveway may be used in lieu of a gravel mat if the driveway would remain in place during construction activities. In the event that a public alley exists at the rear of the subject property, entry to the construction site must be made from the public alley.

(E) Sanitation facilities. A portable toilet shall be provided at every site of construction of a new principal structure, or addition thereto, prior to the commencement of construction, unless an existing facility is available on the construction site. The proposed location of any portable toilet shall be depicted on plans submitted at the time of application for the review and approval of the Community Development Department. The portable toilet shall be located a minimum of 10 feet from all property lines so that the location shall have the least possible impact on adjacent properties. In the event that a public alley exists at the rear of the subject property, the portable toilet must be located in the rear yard and be serviced from the public alley.

(F) Litter control and cleanup. Litter and debris at the subject property shall be controlled at all times. The applicant shall designate a person regularly present at the subject property as having responsibility to assure that no litter or debris leaves the subject property and that all litter and debris is removed from the subject property before the end of every day, including weekends, and regardless of whether work was conducted that day on the subject property. The permit shall specify the location of the dumpster as approved by the Community Development Department. It shall be unlawful for any person to store any rubbish or combustible refuse at a construction site unless such rubbish or combustible refuse is stored in an approved container. All containers for the purpose of construction waste collection shall be no smaller than 15 cubic yards in capacity, unless authorized by the Community Development Director. The containers shall be kept in good and sanitary condition, with a sufficient number of such containers maintained on each construction site to accommodate all rubbish and combustible refuse. Within 24 hours after the time when any required container is full to capacity, the

rubbish and combustible refuse therein shall be collected and removed from the construction site. No required container shall be allowed to stand unutilized at any site for longer than 15 days. All required containers shall be located entirely on the subject property and cannot be located on the Village street or any other public right-of-way.

(G) Street, alley and sidewalk cleaning. The applicant shall cause all dirt, mud, gravel, and other debris from the subject property or related to any work conducted on the subject property, to be cleaned regularly from all sidewalks, alleys and streets adjoining, and in the area of the subject property, no later than 6:00 p.m. Monday through Friday and by 12:00 noon on Saturdays, on every day that construction occurs on said property. If the applicant shall fail to clean all sidewalks, alleys and streets adjoining and in the area of the subject property as required, then the subject property may be subject to a special street cleaning fee in the amount set forth in the Annual Fee Resolution,*Editor's Note: See Ch.* ***A25****, Fees,* and may also be subject to a stop-work order by the Community Development Director to be posted in a conspicuous place on the subject property. Any work subject to a stop-work order shall not be resumed except upon written permission of the Community Development Director or his/her designee. In the case of a stop-work order, the special street cleaning fee shall be in addition to the fee charged for lifting a stop-work order.

(H) No trespass. No permit shall authorize or shall be construed to authorize any entry onto property adjoining the subject property or any work for which entry onto property adjoining the subject property is or may be necessary, unless a proper right of entry has been secured from the owner of such property.

(I) Damage to property. No person engaged in any work pursuant to a permit shall injure, damage, or destroy, or cause or allow to be injured, damaged, or destroyed, any property, whether public or private, not owned by such person. In the event of any injury, damage, or destruction in violation of this provision, it shall be the duty of the person committing, inflicting, causing, or allowing such injury, damage, or destruction to promptly repair and restore the injured, damaged, or destroyed property and to pay all of the costs and expenses of such repair and restoration. For purposes of this provision, a person shall be deemed to have caused or allowed injury, damage, or destruction whenever that person, or any contractor, subcontractor, agent, or employee of that person shall have committed or inflicted such injury, damage, or destruction or whenever any work being done by that person, or any contractor, subcontractor, agent, or employee of that person, shall have resulted in such injury, damage, or destruction. The Village shall not be responsible for seeking legal or equitable remedies on behalf of private property owners in the event of any injury, damage, or destruction of such property in violation of this provision.

(J) Foundation plan. After construction of the foundation of any new building or addition of greater than 500 square feet in area, and before any other framing work is commenced on such building, any person undertaking such work shall submit an as-built spotted survey foundation plan, showing top of foundation elevations, and all yard setbacks to the Village. Such survey shall be prepared by a licensed surveyor and presented to the Community Development Director before the commencement of any other framing

work. Failure to submit the required as-built spotted survey prior to the commencement of any other work on the site, will result in the issuance of a stop-work order. Any work subject to a stop-work order shall not be resumed except upon written permission of the Community Development Director or his/her designee, following payment of a fee to the Village in the amount set forth in the Annual Fee Resolution.*Editor's Note: See Ch.* ***A25****, Fees.*

(K) Wastewater discharge. No person shall undertake any work pursuant to a permit from which the discharge of any wastewater will be caused or associated without prior approval of the Director of Public Works. It shall be the duty of the person undertaking any such work to direct all wastewater flow to the particular location designated by the Public Works Department. No person undertaking such work shall cause or allow any cement truck wash to be discharged onto any public property or into any catch basin or other Village sewer facility.

(L) Limitations on noise. All work undertaken pursuant to a permit shall be subject to the provisions of Section 17-2-16 of this Code and those performance standards set forth in the Village Zoning Ordinance (Chapter **15** of this Code) applicable to the particular zoning district in which the work is occurring, regulating limitations on noise emissions. Further, no person shall operate or cause to be operated any radio, phonograph, telecommunications device, or other such object at such a volume or in any other manner that would cause a nuisance or a disturbance to any person. Every contractor and every permittee shall be responsible for all actions of their employees, agents, and subcontractors hereunder, and shall be liable for all violations of the provisions of this Code committed by such employees, agents, or subcontractors.

(M) Permissible hours of construction. All work undertaken pursuant to a permit may occur only between 7:00 a.m. and 6:00 p.m. Monday through Friday, and between 7:00 a.m. and 12:00 noon on Saturday. No work shall be permitted on Sundays or on the following federal holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day. However, construction activities performed without compensation by a person upon his or her own place of residence shall be permitted on any day and time; provided, however, that noise emissions associated with such work shall not be plainly audible beyond the boundaries of the property from which it emanates before 7:00 a.m. or after 8:00 p.m. on Mondays through Fridays, or before 8:00 a.m. or after 8:00 p.m. on Saturdays and Sundays.

(N) Limitations on deliveries. No construction materials shall be delivered to any residential zoning lot prior to 7:00 a.m. or after 6:00 p.m. Monday through Saturday. The provisions of this Section 14-14-10(N) shall not apply: (1) in the event of a bona fide emergency to which construction workers must respond; (2) to any work ordered by the Village; or (3) to work required by the Village.

(O) Safeguards. All persons undertaking work pursuant to a permit shall exercise proper care for the safety of all persons and property. Warnings, barricades, and lights shall be maintained when required by the Community Development Director and, regardless of such requirement, whenever necessary for the protection of pedestrians or vehicular traffic. Temporary roofs over sidewalks and public rights-of-way shall be constructed

whenever there is danger to pedestrians from falling articles or materials. All such safety devices, including barricades and required fences, shall be subject to the approval of the Community Development Director.

(P) Weeds and long grass. All persons undertaking work pursuant to a permit issued under this Chapter **14** shall maintain the subject property in compliance with the standards of Article 2 of Chapter**11** of this Code, and Section 6-5-4 of this Code related to the control of weeds and long grass.

(Q) Signs. No person shall erect or maintain any sign except in conformance with the provisions of the Village Sign Ordinance.

Sec. 42-78. Specific noises prohibited.

The following are hereby declared to be excessive, loud, disturbing and unnecessary noises in violation of this article; however, this shall not be construed to exclude other noises coming within the definition of this article:

(1) *Building or construction operations.* The use of any pile driver, shovel, hammer derrick, hoist tractor roller or other mechanical apparatus operated by fuel or electric power in building or construction operations other than between the hours of 7:00 a.m. and 6:00 p.m. on weekdays and Saturdays, except in case of urgent necessity in the interest of public health and safety, and then only with written permission from the Village Manager or designee, which permission may be granted for a period not to exceed 3 days or less while the emergency continues and which permit may be renewed for periods of 3 days or less while the emergency continues, provided the Village Manager or designee should determine that the public health and safety will not be impaired by such acts. Within the hours of 6:00 p.m. and 7:00 a.m., if the Manager shall further determine that loss or inconvenience would result to any party in interest, the Manager may grant permission for such acts to be done within the hours of 6:00 p.m. and 7:00 a.m., upon application being made.

(2) *Lawn care equipment.* The use of any lawn care equipment, except for gas-powered leaf blowers, other than between the hours of 8:00 a.m. and 9:00 p.m. on Monday through Friday, between 9:00 a.m. and 9:00 p.m. on Saturdays, and between 10:00 a.m. and 9:00 p.m. on Sundays and holidays.

(3) *Horns or signaling devices of vehicles.* The sounding of any horn or signaling device on any automobile, motorcycle or other vehicle on any street or public place of the Village, except as a warning signal.

(4) *Noisy animals or birds.* The keeping of any animal or bird which by causing frequent or long continued noise shall disturb the comfort or repose of any persons in the vicinity.

(5) *Radios, stereos, amplifiers, phonographs, etc.* The using or operating of or permitting to be played, used or operated any radio receiving device, musical instrument, stereo, amplifier, phonograph or other machine or device for the producing or reproducing of sound in such a manner as to disturb the peace, quiet and comfort of the occupants of the neighboring properties. The operation, use or playing of any such equipment in a manner as to be audible at a distance of 25 feet from the property line where the sound originates shall be prima facie evidence of a violation of this section. However, the utilization of lawn care or construction equipment or the sounding of horns or whistles on locomotives as provided for in this section, the placement of air conditioner units in accordance with applicable Village codes and standards or the utilization of an amplifier for which a Village permit has been issued shall not be considered a violation of this subsection.

(6) *Gas-powered leaf blowers.* The use of any gas-powered leaf blower other than between the hours of 9:00 a.m. and 8:00 p.m., Monday through Sunday, including holidays.

SPECIAL PROVISIONS

PLANTING WOODY PLANTS (TREES, SHRUBS)

This work shall be performed in accordance with Section 253 of the Standard Specifications except as herein modified:

WORK INCLUDED

General - Landscape planting shall include, but not be limited to, the supplying of all materials, and completion of all work items associated with the installation, warranty, and maintenance of all parkway trees as specified on the attached proposal form. Planting shall be scheduled and completed by a time specified by the Engineer.

QUALITY ASSURANCE

A. All materials and work shall comply with applicable sections of the following references:

1. American Association of Nurseryman. Inc., (AAN) Standard: American Standard for Nursery Stock (ANSI Z60.1 -2004)
2. Hortus Third, Cornell University, 1976.

B. Source quality control –

1. Certification: All landscape materials shall be from stock inspected and certified by authorized governmental agencies. The stock shall comply with governmental regulations prevailing at the supply source and the job site. Plants furnished must be from a nursery in Zone 5, as outlined on the U.S.D.A. Plant Hardiness Zone Map.
2. Plan material selection: Prior to digging and shipment by the nursery, plant materials shall be selected and tagged by the owner's representative.

C. Substitutions - If specified landscape material is not obtainable, submit to the representative proof of unavailability and proposal for use of equivalent material. All plant material substitutions must be approved in writing by the owner's representative. Plants shall be supplied at the sizes specified. Plants of larger size may be used if acceptable to the owner's representative, and if sizes of roots or ball are increased in proportion.

QUANTITY

The quantity of plant material shall be as indicated on the plans. The owner's representative reserves the right to adjust plan quantities until the time when the plants are dug.

SUBMITTALS

A. Samples: Representative samples of the following materials shall be provided to the owner's representative from the supply source being used:

1. Plant material: Inspected by owner's representative in the nursery.
2. Topsoil

B. Invoice: Vendor or grower's invoice for each shipment of plants shall show species, sizes, ages, and quantities.

C. Landscaping schedule: Upon authorization to proceed with the work, submit landscaping schedule indicating dates for the items of work.

PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Plant Materials - Shipping shall be scheduled to minimize on-site storage of plants. Stock shall not be shipped until the planting preparations have been completed. Shipment of plants shall be clearly identified, with legible labels stating correct name and size of plant, securely attached to individual plants. During shipment, plants shall not be bent, stacked, or bound in a manner that damages bark, breaks branches, deforms root balls or destroys natural shape. Plants damaged during shipping may be rejected at the site by the owner's representative and must be replaced. Transport plant material in closed vehicles or in open vehicles with the entire load properly covered for protection from drying winds, heat, freezing or other exposure that may be harmful. If delays beyond the contractor's control occur after delivery, plants shall be kept watered and protected from sun, wind, and mechanical damage; root balls shall be covered with topsoil or mulch. Handle plants at all times in accordance with the best horticultural practices. Lift B&B materials from the bottom of the ball only. Plants handled otherwise will be subject to rejection. Balled and burlapped plants which have cracked or broken balls are not acceptable and shall not be planted.

JOB CONDITIONS

1. Utilities: Have all underground utilities located by servicing agencies, i.e. J.U.L.I.E. (1-800-892-0123). In the vicinity of utilities, hand excavate to minimize possibility of damage to underground utilities.

2. On-site sources of water will not be available. The Contractor must supply his own water truck which may be filled from a metered Village fire hydrant. Metered water will be available from a nearby hydrant at no cost to the Contractor, however, a deposit is required for the water meter which can be obtained from Public Works.

3. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify owner's representative before planting.

GUARANTEE

1. General - Plants will be guaranteed for a period of one year. Warranty all plant material to be true to botanical name and specified size. After receiving a notice of provisional acceptance, all plant materials shall be maintained in a vigorous condition and warranted against defects including death, improper maintenance, and unsatisfactory growth until one year after provisional acceptance.

2. Replacements - During the warranty period, replace, at no additional expense to the owner, plant materials that are dead or that are, in the opinion of the owner's representative, in an unhealthy or unsightly condition, or that have lost their natural shape due to dead branches, excessive pruning or improper maintenance. Rejected plant materials shall be removed from the site and legally disposed of at no additional expense to the owner.

3. Replacement plants and planting operations shall be in accordance with the original specifications. Replacements shall be made no later than the next succeeding planting season. Fully restore areas damaged by replacement operations to their original and specified condition. The Contractor and owner's representative may agree to extend the guarantee period for a second growing season on those plant(s) found to be, in their opinion, questionable in their appearance but able to survive and develop into full vigorous plant(s), fulfilling the functional aesthetic requirements for which they were originally intended.

MATERIALS

1. Plant Materials –

A. Name and variety: Provide plant materials true to name and variety established by the American Joint Committee on horticultural nomenclature "Standardized Plant Names", second edition, 1942. Plant materials shall be true to name and variety described in "Hortus Third", Cornell University, 1946, or by cultivars generally accepted in the trade. All planting stock shall be nursery grown in accordance with good horticultural practice.

B. Plant material shall be grown in the nursery such that the root collar of the tree is at the normal level of the soil.

C. Plants shall be free of disease, insects, eggs, larvae, and defects such as knots, sun-scald, injuries, and abrasions, and growth typical of the species and variety, well-formed, free from irregularities with the minimum quality conforming to American Standard for Nursery Stock.

D. Plants shall be exceptionally heavy and tightly knit cultured to be unquestionably superior in form, branching, compactness, and symmetry. The minimum acceptable sizes of all plants stall be measured, before pruning and with branches in normal position. Unless otherwise designated on the plant list, all plant dimensions shall conform to those listed in ANSI Z60.1, American Standard for Nursery Stock. Trees shall be matched, of similar form, size and branching structure.

E. Trees shall be two and one-half inches (2-1/2") in caliper with a root ball diameter of 28". All trees shall be branched no less than five feet (5') above

the ground. Caliper is the trunk diameter taken at a specified distance above root collar as described in ANSI Z60.1. Branching point is the distance above ground where balanced branching occurs or where a dimension in trunk appears to form the head of the tree.

F. Root treatment - Root treatments on all trees shall conform to the requirements of ANSI Z60.1. Plants shall be dug and prepared for shipment in a manner that will not cause damage to branches, shape, and future development after planting. All trees shall be balled and burlapped (B&B). Trees shall have a firm, natural ball of earth of sufficient diameter and depth to encompass the fibrous and feeding root systems necessary for full recovery of the plant. Balls shall be securely wrapped with burlap and bound with biodegradable cord. Ball sizes shall meet the requirements of the ANSI Z60.2.

The top 1/3 of wire basket, burlap and rope must be removed at the time of planting.

G. Wrapping - Trunks of broadleaf trees shall be protected during shipping and planting but shall not be wrapped with trunk wrap after planting.

H. Plant materials shall be selected by the owner's representative in nursery prior to digging and shipment to site.

I. All trees shall include a tall water bag that shall be maintained by the contractor as needed to ensure the health of the tree. All tall water bags shall become the property of the Village of Skokie.

J. All oak, pear, and baldcypress tree Species must be Spring dug.
K. The Engineer or Village Forester shall have the right to tag trees and approve other material prior to the material being delivered to the site.

2. Backfill Soil –

A. Backfill soil shall be free from large roots, sticks, weeds, brush or stones larger than one inch (1") in diameter or other litter and waste products.

B. Backfill soil shall, at the time of planting, be in a loose, friable condition. At no time shall the prepared backfill or other topsoil used on the job be stockpiled on curb or public walkways.

PREPARATION

1. Addresses of planting locations shall be as listed on the enclosed plans.

2. Layout - Individual plant locations shall be centered in the planting holes and staked on the project site by Contractor upon arrival to site and approved by the owner's representative before any planting pits are dug. The owner's representative reserves the right to adjust plant material locations to meet field conditions, without additional cost to the owner. Stakes shall be above grade and painted a bright color to be clearly visible for inspection. If obstructions are encountered that are not indicated, do not proceed with planting operations until

alternative plant locations have been selected and approved in writing by the owner's representative.

3. Vegetation removal - Remove all foreign plant material, including roots from all planting area. Remove vegetation from the site.

PLANTING

1. Excavation - soil, rocks, roots, stone, subgrade materials and other underground obstructions shall be removed to a depth of three feet (3') within the entire planting pit, as indicated on the plan details. In general, planting pit dimensions shall be defined by the surrounding curb, sidewalk borders, and tree grate supports. Excavated soil (materials) shall be removed from the site. If underground utilities, or other structural obstructions are encountered, alternate planting locations may be determined by the owner's representative. Plant pits shall be dug only by methods approved by the owner's representative.

2. Planting - Planting, unless otherwise directed, shall be performed as specified on the attached drawing. Do no planting when the ground is frozen. Top 1/3 of wire baskets, burlap and rope shall be removed.

   A. Place the trees centered in the planting pit at the proper grade. The root flare should be even with the ground. In some cases the root ball may need to be shaved to expose the root flare.

   B. Fill the planting pit with topsoil and tamp lightly to grade. After backfilling planting pit, water and allow soil to settle. Mulch with 2-3" of quality, screened mulch.

   C. All protective wrap, nursery tags, and flagging, shall be removed immediately following planting. All trees shall include a tall water bag.

   D. Trees shall be planted straight.

   E. Guying and staking - Trees which lean within 45 days after planting shall be guyed and staked by the Contractor. Stakes and guys shall be removed by and become the property of the Contractor at the end of the warranty period.

   F. Trees shall be planted October 15th – November 15th if fall planted and April 15th – May 31st if spring planted.

FIELD QUALITY CONTROL

Inspections for acceptable work – Provisional acceptance inspection:

A. Notify the owner's representative in writing of the completion of planting.

B. Within ten (I0) days after notification of completion of work, the owner's representative will inspect the work and prepare a notice of provisional acceptance along with a list of items that require completion or correction.

C. Final acceptance inspection of plantings or material planted will be made during the following July for the spring planting.

CLEANUP AND PROTECTION

1. Cleanup - Excess and waste material shall be removed daily. When planting in an area has been completed, the area shall be cleared of all debris, soil piles, and containers.

2. Repairs - Any damage to existing landscape, paving, or other such features as a result of work related to this contract shall be repaired by the responsible Contractor to its original condition. Lawn areas damaged as a result of landscape installation must be restored to the original condition. Necessary restoration activities may include but are not limited to, aerating, top dressing and slit seeding with a seed mixture approved by the owner's representative.

3. Protection - Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.

BASIS OF PAYMENT

This work will be paid for at the Contract Unit Price per each for Trees, Shrubs, of the species, root type, and plant size specified. The cost of which shall include all materials, removals, excavation, topsoil, mulch, bracing, tall water bags, watering, equipment and labor as specified herein and as detailed on the plan drawings.

PLANTING PERENNIAL PLANTS, of type specified

This work shall be performed in accordance with Section 254 of the Standard Specifications except as herein modified:

Perennial plants shall have a warranty of one year following the Period of Establishment as detailed in Section 254 of the Standard Specifications.

TYPES AND MIXTURES

Types and mixtures of perennial plants shall be as shown on the plans.

QUALITY ASSURANCE

Perennials, Bulbs

1. Conform to Z60.1
2. Free of disease and insects. Overall healthy, vigorous appearance. Bulbs shall not be rotten. Bulbs shall only be planted October 15th – December 1st.
3. Perennials shall be planted April 15th – June 10th, or September 1st – October 15th.
4. Perennials shall be fully rooted and established in container. The roots shall reach the sides of the container and maintain a firm root ball.
5. Perennials shall be healthy, vigorous and free of disease or insects.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per Each for Perennial Plants, of the type and size specified.

TOPSOIL, FURNISH AND PLACE

This work shall be performed in accordance with Section 211 of the Standard Specifications except herein modified:

1.) Topsoil shall be sandy loam soil from the A horizon of soil profiles of local soils. It shall be relatively free from large roots, sticks, weeds, brush, or stones larger than 25 mm (1 inch) in diameter, or other litter and waste products. As least 90 percent must pass the 2.00 mm (No. 10) sieve and the pH must be between 6 - 6.8.
2.) Composition: 20% - 30% silt, 10% - 25% clay, 45% - 70% sand.
3.) Composition must be as similar to soil on jobsite as obtainable.
4.) Acidity: pH 6.0 to 6.8, the soil must pass pH amendments and gypsum are temporary fixes and should not be accepted.
5.) Organic content: 1.5% - 10%.
6.) Import topsoil conforming to above requirements from off-site sources as required to complete the work. Do not obtain from bogs or marshes.
7.) Perform test analysis on each source of topsoil to demonstrate compliance with the above and submit reports as specified.
8.) Soil texture of sandy loam, silt loam, or loam.
9.) Soluble salts < 0.5 mm hos/cm.

In lieu of furnishing additional topsoil from areas outside the limits of the right-of-way, the Contractor may request permission to obtain the additional topsoil from areas within the limits of the right-of-way other than those shown on the plans.

IRRIGATION SYSTEM – AREA 1 (ISLAND GREATER THAN 500')
IRRIGATION SYSTEM – AREA 2 (ISLAND LESS THAN 250')

A. General and Description: Provide an underground drip irrigation system as shown and specified. The work includes:
   1. Design and installation of an automatic drip system including piping, fittings, and accessories.
   2. Control Valves and fittings
   3. Backflow preventer
   4. Water meter and water tap where existing water source is not provided
   5. Battery operated controller and control wire
   6. Testing
   7. Excavating and backfilling irrigation system work
   8. Fall winterization and spring start up
   9. Irrigation Valves
   10. Water Meter Vault
   11. PVC conduit and wiring
   12. Handheld Remote Control
   13. Enclosures

B. Provide only new materials, without flaws or defects and of highest quality of their specified class and kind.

C. Contractor shall be pre-qualified with the Illinois Department of Transportation in accordance with Article 102.01 Paragraph (6) of the Standard Specifications for Road and Bridge Construction adopted January 1, 2012, Proof of pre-qualification will be required to obtain bid document. Contractor shall provide evidence that his firm or other entity propose for the irrigation work has a minimum of 5 years experience installing irrigation systems of comparable size.

D. The same experienced supervisory personnel will be made available for this project and irrigation system electrical work shall not be sublet.

E. If requested the irrigation firm shall submit a list of comparable projects setting forth description, location and knowledgeable references with addresses and phone numbers.

F. Materials, equipment, and methods of installation shall comply with the following codes and standards:
   1. National Fire Protection Association, (NFPA): National Electrical Code
   2. American Society for Testing and Materials, (ASTM)
   3. National Sanitation Foundation, (NSF)
   4. The Irrigation Association, (IA)
   5. Village of Skokie, Illinois
   6. State of Illinois

G. Obtain Owner's Representative's acceptance of installed and tested irrigation system prior to installing backfill materials.

H: Guarantee: Guarantee work in this section for one year following the date of written Final Acceptance by the Owner's Representative or client.

1. The entire irrigation system shall be guaranteed by Contractor as to material and workmanship, including settlement in pipes, valves, tubing, or paving, and make all adjustments without extra cost to the Owner including the complete restoration of all damaged planting, paving, or other improvements for a period of one year following the written date of Final Acceptance by the Owner.
2. Should any operational difficulties in connection with the drip system develop within the specified guarantee period, which, in the opinion of the Owner, may be due to inferior material and/or workmanship, immediately correct to the satisfaction of the Owner, at no additional cost, including any other damage caused by such defects. Minor maintenance and adjustments shall be by the Owner. The Contractor shall be responsible for blowing out the system by air compression the first fall following installation and turning on the system in the following spring. The contractor shall contact the Village water department 24 hours in advance of these operations.

I. Submittals:

1. Submit manufacturer's product data and installation instructions to the Owner's Representative for each of the system components.
2. Shop Drawings: Prior to any construction, submit 3 copies of the complete irrigation layout in the form of shop drawings and details for Owner's Representative's review and acceptance of the following:
    a. Complete layout plan including:
    b. Piping locations and sizes
    c. Size and locations of underground sleeves for lines and wires passing underneath pavement.
    d. Irrigation tube location and types of emitters to be used.
    e. Locations of valve, valve boxes, and drains
    f. Controller location
    g. Vault locations
3. Installation details for:
    a. Irrigation tubing
    b. Piping connections
    c. Meters, pumps (if required), and backflow preventers
    d. Controllers and hookup materials
    e. Valves and valve access boxes
    f. Enclosures
4. Samples of equipment and material: Equipment samples will be returned to Contractor and may be used in work:
    a. Irrigation tubing, 5 LF of each type, complete with emitters
    b. Valves and valve access boxes
    c. Controller
    d. Backflow preventer
    e. Piping and fittings
    f. Built wire connections and sealer
5. Upon irrigation system acceptance, submit written operating and maintenance instructions. Provide format and contents as directed by Owner's Representative.
6. Provide irrigation system record drawings:
    a. Legibly mark drawings to record actual construction
    b. Indicate horizontal and vertical locations of valve boxes and valves. Reference dimensions to permanent surface improvements.

c. Identify field changes of dimension and detail and changes made by Change Orders.

J. Drip irrigation tubing:

1. Drip irrigation tubing and emitters shall be Techline CV dripperline with .9GPH emitters 18"o.c. as manufactured by Netafim USA, 5470 East Home Avenue, Fresno, CA 93727 Phone: 888-638-2346, Fax: 800-695-4753, or approved equal.
2. Drip tubing shall be ordered with all necessary Techline or Tectlline CV fittings, so that no clamps are required.
3. Supply and exhaust headers should use Schedule 40 PVC and fittings sized to fit application.

K. Irrigation water supply and regulation components:

1. Controllers shall be Rain Bird TBOS 1 station control module (TBOS1 CMUS) manufactured by Rain Bird International, 145 North Grand Avenue, Glendora, CA 91741, Phone: 626-963-9311, Fax: 626-963-4287 or approved equal.
2. Controllers shall use matching TBOS potted latching solenoid (TSOLDC) manufactured by Rain Bird International to operate zone control valve.
3. Zone control valves shall be Rain Bird PGA series valves (PGA-100) manufactured by Rain Bird International, or approved equal.
4. Rain Bird RBA disk filters using 120 or 140 mesh - manufactured by Rain Bird International, or approved equal.
5. 1" pressure regulating valves with filters to be PRV-075HF45V2K manufactured by Netafim USA, or approved equal, one per zone.
6. Line flushing valves (TL050MFV-1) - 1 per zone, manufactured by Netafim USA, or approved equal.

L. Accessories:

1. Drainage fill: 1/2" to 3/4" washed pea gravel.
2. Fill: Clean soil free of stones larger than 2" diameter, foreign matter, organic material, and debris.
    a. Provide imported fill material as require to complete the work. Obtain rights and pay all costs for imported materials.
    b. Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Owner's Representative's review and acceptance.
3. Low-voltage wire connectors: Socket seal type wire connectors and waterproof sealer.

M. Inspection: Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.

N. Preparation: Layout and stake the location of each pipe run and controller, regulators, and valves. Obtain Owner's Representative's acceptance of layout prior to excavating.

O. During the installation of the median irrigation systems Contractor shall keep driveways and entrances serving the businesses and homes clear and available to the Owner and the business' employees at all times. Customer access shall be maintained during normal business hours.

P. Excavating and backfilling:

1. All excavation shall be considered unclassified excavation and include all materials encountered.
2. Excavate trenches of sufficient depth and width to permit proper handling and installation of pipe and fittings.
3. Excavate to depth required to provide 2" depth of earth fill or sand bedding for piping when rock or other unsuitable bearing material is encountered.
4. Fill to match adjacent grade elevations with approved earth fill material.
5. Place and compact fill in layers not greater than 8" depth.
    a. Provide approved earth fill or sand to a point 4" above the top of pipe.
    b. Fill to within 6" of final grade with approved excavated or borrow fill materials free of lumps or rocks greater than 3" in any dimension.
    c. Provide clean topsoil fill free of rocks and debris for top 6" of fill.
6. Install irrigation supply lines with a minimum cover of 12" based on finished grades for piping 11/ 2" and smaller, 18" for larger piping.
7. Excavate trenches and install piping and fill during the same working day.
8. Do not leave open trenches or partially filled trenches open overnight.

Q. Plastic pipe:

1. Install plastic pipe in accordance with manufacturer's installation and ASTM 02774 instructions. Provide for thermal expansion and contraction.
2. Saw cut plastic pipe. Use a square-in-sawing vice, to ensure a square cut. Remove burrs and shavings at cut ends prior to installation.
3. Make plastic to plastic joints with solvent weld joints or slip seal joints. Use only solvent recommended by the pipe manufacturer. Install plastic pipe fittings in accordance with pipe manufacturer's instructions. Contractor shall make arrangements with pipe manufacturer for all necessary field assistance.
4. Make plastic to metal joints with appropriate union fittings.
5. Make solvent weld joints in accordance with manufacturer's recommendations.
6. Allow joints to set at least 24 hours before pressure is applied to the system.
7. Minimum pitch of piping to drains shall be 3" in each 100 feet (1:400). Minimum horizontal clearance between lines in the same trench shall be 4".
8. Maintain pipe interiors free of dirt and debris. Close open ends of pipe by acceptable methods when pipe installation is not in progress.

R. Fittings, valves, and accessories:

1. Install fittings, valves, and accessories in accordance with manufacturer's instructions, except as otherwise indicated. Provide concrete thrust blocks where required at fittings and valves.
2. Obtain Owner's Representative's review and acceptance of height for proposed valves prior to installation.
3. Locate drip tubing to provide complete coverage of indicated areas. Do not exceed spacing distances indicated.
4. Install pump, suction line, fittings, and accessories as shown or required to complete the system.
5. Valves and valve boxes shall be installed as indicated in the specifications or drawings, and shall be set plumb. Valve boxes shall be centered on the valves and tamped around each box to the undisturbed trench face.
6. Manual drain valves shall be installed at all low points of the irrigation piping system. Two cubic feet of gravel shall be placed at the outlet of each drain valve for drainage.

S. Wiring:

1. Provide sufficient slack at site connections, at remote control valves in control boxes, and at all wire splices to allow raising the valve bonnet or splice to the surface without disconnecting the wires when repair is required.
2. Connect each remote control valve to one station of a controller except as otherwise indicated.
3. Connect remote control valves to common ground wire system.
4. Make wire connections to remote control electric valves and splices or wire in the field, using wire connectors and sealing cement In accordance with Manufacturer's recommendations.
5. Provide tight joints to prevent leakage of water and corrosion build-up on the joint.

T. Sleeves: Utilize existing or install new sleeves for installation of the irrigation system where pipes cross beneath hardscape surfaces

U. Flushing, testing, and adjustment

1. After supply piping and manifolds are installed and before drip tubing is installed, open control valves and flush out the system with full head of water.
2. Perform system testing upon completion of each section.
3. Once the system has been flushed out, cap openings and subject the system for four (4) hours to a hydrostatic pressure test of 125 pounds per square inch. Exposed pipe, joints, fittings, and valves shall be carefully examined during the open-trench test. Replace cracked or defective pipe or fittings, disclosed in the pressure test, with sound material, and repeat the test until the results are satisfactory to the Owners Representative and show no leakage or loss of pressure.
4. When the irrigation system is completed, perform, in the presence of the Owner's Representative, a coverage test to determine if the coverage of the waters afforded the planting areas is adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage disclosed.
5. Test and demonstrate the controller by operating appropriate day, hour, and station selection features as required to automatically start and shut down irrigation cycles to accommodate plant requirements and weather conditions.

V. Disposal of waste material:

1. Stockpile, haul from site, and legally dispose of waste materials, including unsuitable excavated materials, rock, trash, and debris.
2. Maintain disposal route clear, clean, and free of debris.

W. Acceptance: Instruct the Owner's designated personnel in the operation of the system, including adjustment of controller(s), valves, and filters, as well as any unique conditions or procedures relating to winterization or spring start up.

X. Cleaning: Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soils, debris, and equipment. Repair damage resulting from irrigation system installation.

Y. Method of Measurement: Work completed will be measured in place on a LUMP SUM basis for each AREA to be irrigated per contract location.

Z. Basis of Payment: Work completed will be paid for as measured in place on a lump sum basis for each median to be irrigated as follows:

1. IRRIGATION SYSTEM – AREA 1 (ISLAND GREATER THAN 500') include all excavation backfill labor and materials required for water tap and installation of complete irrigation system using components specified, Including testing, winterization and spring start up.
2. IRRIGATION SYSTEM – AREA 2 (ISLAND LESS THAN 250') include all excavation backfill labor and materials required for water tap and installation of complete irrigation system using components specified, Including testing, winterization and spring start up.

SPECIAL PROVISION
FOR
SANITARY SEWER INSTALLATION

Description This work shall consist of constructing sanitary sewers of the required inside diameter with necessary fittings, laid, bedded and backfilled and, conforming to the lines and grades shown on the plans or furnished by the Engineer.

Construction Methods. Construction methods shall be in conformance with Section 550 of the Standard Specifications for Road and Bridge Construction trench backfill shall not be included in the unit price bid for sanitary sewer but shall be paid for separately.

Joints and Jointing - The following joint shall be used:

Vitrified Clay Pipes equipped with a compression type joint of preformed plastic or rubber materials having resilient properties and conforming to all requirements of A.S.T.M. Specification C-425.

Ductile Iron Pipes equipped with rubber gasket mechanical joints conforming to the requirements set forth in American Water Works Association (A.W.W.A.): Specification C-111.

Polyvinyl Chloride (PVC) sewer pipe joints shall be solvent welded joints per ASTM D 2855 or flexible elastomeric seals per ASTM D 3212.

All joints shall be cleaned and inspected immediately preceding installation and, any pipe whose joint has been determined unsatisfactory shall be removed from the job site. All joints shall be installed and made in conformance with the latest manufacturers' recommendations and shall be subject to approval by the Engineer.

Except for foundation / footing drains provided to protect buildings, drain tiles / field tiles / underdrains / perforated pipes are not allowed to be connected to or tributary to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers in combined sewer areas. Construction of new facilities of this type is prohibited; and all existing drain tiles and perforated pipes encountered within the project area shall be plugged or removed, and shall not be connected to combined sewers, sanitary sewers, or storm sewers tributary to combined sewers.

Pipe Bedding. Bedding shall consist of gravel, crushed gravel, pea gravel, crushed stone or crushed slag, ¼ inch to ¾ inch in size. As a minimum, the material shall conform to the requirements of Article 1004.01 of the "Standard Specifications for Road and Bridge Construction", of the State of Illinois or ASTM C-33. The gradation shall conform to gradation CA 7, CA 8, CA 11 or CA 13 of the Illinois Standard Specifications or to ASTM Gradation No. 67. The pipe shall be laid so that it will be uniformly supported and the entire length of the pipe barrel will have full bearing. No blocking of any kind shall be used to adjust the pipe to grade except when used with embedment concrete. Bedding shall be required for all sewer construction and shall be of a minimum thickness equal to 1/4th of the outside diameter of the sewer pipe but shall not be less than six inches.

Maximum Allowable Infiltration:

The maximum allowable rate of infiltration or exfiltration shall not exceed 200 gallons per twenty-four (24) hours per mile per inch-diameter of the sewer pipe, for any section of the system and at any time during its service life.

Pipe Materials. Pipe shall be produced of the material specified and manufactured in strict adherence to applicable A.S.T.M., ASA or other applicable standardizing agency specifications and meeting all requirements of strength, and alignment tolerances as set forth in said specifications.

Inspection. Any section of the sewer failing to meet the requirements set forth in this Special Provision upon inspection by the Engineer, shall be repaired and/or replaced at the Contractor's expense. Any testing which may be required shall be done at the Contractor's expense upon request of the Engineer.

Basis of Payment. This work shall be paid for at the contract unit prices per foot for VITRIFIED CLAY PIPE SANITARY SEWERS (AASHTO M-65); EXTRA STRENGTH CLAY PIPE SANITARY SEWERS (AASHTO M-65); DUCTILE IRON PIPE SANITARY SEWERS (AWWA C-151) or PVC SANITARY SEWERS (SDR 26) of the size designated, which price shall include all labor, material and equipment necessary for excavating, bedding, installing, jointing and backfilling the sewer as herein specified.

SPECIAL PROVISION

FOR

RIGHT-OF-WAY PARCELS NOT ACQUIRED

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
SECTION: 08-W4337-03-PV

The attention of the Contractor is called to the fact that parcels **TE 987.5, TE 987.6, TE 987.22, TE 987.76, TE 987.78, TE 987.79, TE 987.80, TE 987.107** may not have been acquired. No compensation will be allowed for any cost due to the Contractor for any delays in proceeding with construction phases involving these parcels.

Necessary steps are under way to complete the acquisition proceedings and the attention of the Contractor is called further to the fact that these parcels will be available sufficiently in advance of the completion date set forth in contract so that the Contractor can complete his construction phased in accordance with his Construction Schedule.

The Contractor shall not be permitted to enter upon, use or obstruct access to any right-of-way which has not yet been fully acquired, or which the right-of-occupancy or use has not been acquired. The approximate locations of the unacquired Parcels noted are shown on the Plans. Prior to commencement of any construction operation, the Contractor shall verify the latest status of available right-of-way with the Cook County Department of Transportation and Highways to identify any Parcels not yet acquired.

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 34 & 35, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
ASSESSOR'S DIVISION OF THE SE 1/4, SOUTH OF KENDRICK CRAWFORD NORTH SHORE ADDITION TO WEST ROGERS PARK IN SEC. 34-41-13

"B"
KENDRICK CRAWFORD NORTH SHORE ADDITION TO WEST ROGERS PARK
REC. 5-19-1928 DOC. 9959894

"C"
LINCOLN-CRAWFORD-PRATT BOULEVARD SUBDIVISION
REC. 6-1-1925 DOC. 8930256

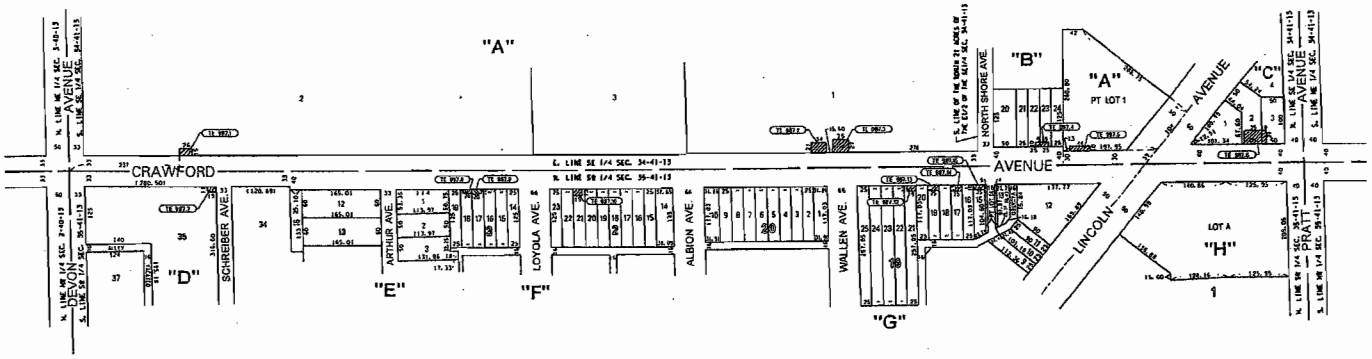
"D"
JOHN PROESEL ESTATE PARTITION
REC. 9-5-1923 DOC. 8090987

"E"
LINCOLNWOOD VENTURE RESUBDIVISION
REC. 1-9-1987 DOC. 87016042

"F"
CRAWFORD-DEVON SUBDIVISION 1ST ADDITION
REC. 5-17-1926 DOC. 9205604

"G"
LINCOLN AVE. GARDENS
REC. 2-11-1927 DOC. 9548461

"H"
LINCOLN-CRAWFORD-PRATT COMMERCIAL CENTER
REC. 8-25-1961 DOC. 18258274



TRACT NUMBER	OWNER	PART TAKEN SQ FT.	PART TAKEN ACRES	NOTES
TE 987.1	BRYN MAWR COUNTRY CLUB	350	0.0090	
TE 987.2	BRYN MAWR COUNTRY CLUB	114	0.0184	
TE 987.3	BRYN MAWR COUNTRY CLUB	845	0.0217	
TE 987.4	JEFFERSON STATE BANK, AS TRUSTEE, TRUST NUMBER 10049	280	0.0064	
TE 987.5	I SHAR, L.P.	440	0.0101	
TE 987.6	BUCKMAN ENERGY INC, LLC	1,305	0.0300	
TE 987.7	646 WEST WASHINGTON LLC	209	0.0040	
TE 987.8	FREDDY OSMANI	180	0.0037	
TE 987.9	YEVSEY JOSHUA ZEMELOVICH AND HIS WIFE	200	0.0046	
TE 987.10	LUDMA A. USHANE	285	0.0065	
~~TE 987.11~~	~~SANITRA ASHINOFF~~	~~216~~	~~0.0050~~	DELETED
TE 987.12	CHICAGO TITLE LAND TRUST COMPANY, TRUSTEE TRUST NUMBER 110037	228	0.0052	
TE 987.13	CLAUDE ROGER PETIT	275	0.0063	
TE 987.14	MOHAMMAD S. POPAL	325	0.0075	
TE 987.15	VALENTIN IONESCH AND HIS WIFE	250	0.0057	

NOTES

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

N

100 50 0 100 200 300 FEET

50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

TOM PRECOMMINE
MANAGER OF BUREAU OF OPERATIONS

JOHN VOGAN
SUPERINTENDENT OF HIGHWAY

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT: CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN: L.M. CABRERA
DATE:
SCALE: 1" = 100' (1:1200)
CHECKED: M. A. MAES
SURVEY NO.
APPROVED:
APPROVED:
CHIEF ENGINEER OF BAR

NO.	DATE	BY	DESCRIPTION	APPR.
1	4-5-13	JVC	DELETED TE 987.11 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

REVISIONS

PROJECT HIGHWAY SECTION NO.	SHEET NO.	TOTAL SHEETS	PLATE
08-W4337-03-PV	1	4	98

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 34 & 35, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
LINCOLN-CRAWFORD-PRATT BOULEVARD SUBDIVISION
REC. 6-1-1925 DOC. 8950256

"B"
LINCOLN-CRAWFORD MANOR SUBDIVISION
REC. 12-5-1925 DOC. 9120562

"C"
BARTELL'S SUBDIVISION
REC. 3-2-1926 DOC. 9153816

"D"
WITTBOLD'S SECOND ADDITION TO KENILWORTH HIGHLANDS SUBDIVISION
REC. 1-21-1927 DOC. 9528983

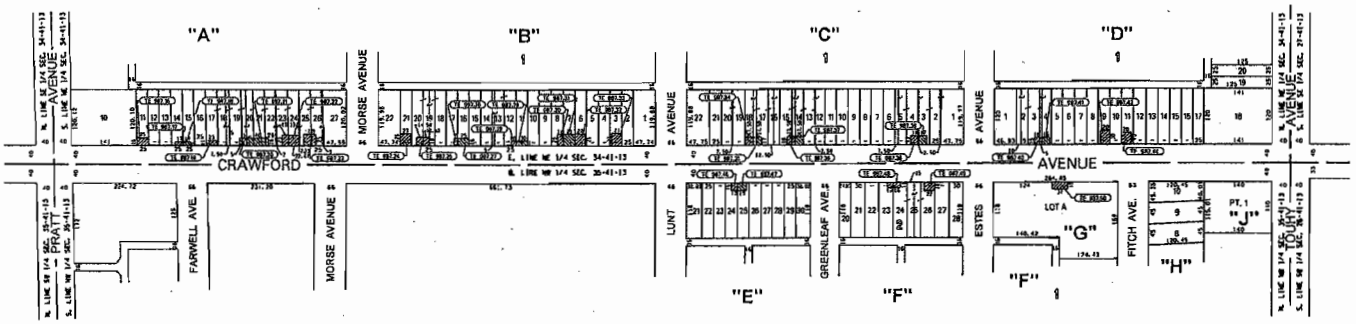
"E"
CRAWFORD-LUNT SUBDIVISION
REC. 6-23-1954 DOC. 15941039

"F"
ENGEL & BECKER'S KENILWORTH AVENUE SUBDIVISION
REC. 2-15-1924 DOC. 8282458

"G"
CONSOLIDATION OF LOTS 20 TO 28 (EX. W. 7FT. TAKEN FOR STREET) AND ALL OF LOT 29 TOGETHER WITH VACATED ALLEY
REC. 3-9-1961 DOC. 18040931

"H"
FISHOFF'S RESUBDIVISION
REC. 5-24-1954 DOC. 15935070

"J"
SUBDIVISION OF NORTH 10 ACRES
REC. 4-19-1513 DOC. 5167430



TRACT NUMBER	OWNER	PART TAKEN SQ. FT	PART TAKEN ACRES	NOTES
TC 587.16	MUNTAZ N. NITSU	400	0.0092	
TC 587.17	KONSTANTINOS PSIHOGIOS AND HIS WIFE	136	0.0031	
TC 587.18	ELEANOR BANK'S TRUST DATED MARCH 16, 2005	136	0.0031	
TC 587.19	MARTIN MIRZA AND SHELDNA MIRZA	253	0.0058	
TC 587.20	PIERRE R. GUILLAUME AND HIS WIFE	240	0.0055	
TC 587.21	GERTRUDE A. SCHAFFNER AND LISA SCHAFFNER	726	0.0167	
TC 587.22	PHABUL AND CHAL NGUYEN	628	0.0190	
TC 587.23	LINA S. ZAZRA AND HIS WIFE	650	0.0149	
TC 587.24	WILLIAM H. LEE, EMILY LEE, MONICA LEE KIM, AND VERONICA LEE	598	0.0137	
TC 587.25	WILLIAM H. LEE, EMILY LEE, MONICA LEE KIM, AND VERONICA LEE	484	0.0111	
TC 587.26	JARNAIL S. KANDA AND HIS WIFE	112	0.0026	
TC 587.27	WAFIK ZAYD AND HIS WIFE	400	0.0092	
TC 587.28	TRUSTEES OF THE ARNOLD WEISS AND RUTH WEISS REVOCABLE LIVING TRUST	110	0.0025	
TC 587.29	ISSAM A. LABIA AND HIS WIFE	336	0.0076	
TC 587.30	YITZ MANDELL LIVING TRUST & MARY T. MANDELL 2010 GRAT TRUST	300	0.0065	
TC 587.31	CHARLES R. SNYDER AND HIS WIFE	625	0.0143	
TC 587.32	ANNA GREENMAN AND NOLAT GREENMAN	577	0.0131	
TC 587.33	ELENA T. AGUSTIN, MOLLY C. AGUSTIN, CATHERINE ROBERT AGUSTIN MANGRA AND SONG ERNEST MANGRA	587	0.0134	
TC 587.34	JOHN KOTSINDOS AND HIS WIFE	298	0.0068	
TC 587.35	CHARLES J. MC ALLISTER AND HIS WIFE	298	0.0068	

TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TC 587.36	TRUSTEES OF THE ARNOLD WEISS AND RUTH WEISS REVOCABLE LIVING TRUST	315	0.0072	
TC 587.37	MARY JANE DOLAY	315	0.0072	
TC 587.38	MARKELLOS VENETOS AND HIS WIFE	342	0.0079	
TC 587.39	DIANE M. DONEGAN LIVING TRUST	323	0.0074	
TC 587.40	OSMAN DELISI	240	0.0055	
TC 587.41	PETER SOKALIS	240	0.0055	
[illegible]	[illegible]	[illegible]	[illegible]	DELETED
TC 587.43	IRVING ROSMAN REVOCABLE TRUST	900	0.0138	
TC 587.44	MARIBEL A. MILLI AND HIS WIFE	500	0.0115	
[illegible]	[illegible]	[illegible]	[illegible]	DELETED
TC 587.46	YA MING TSENN AND HIS WIFE	208	0.0048	
TC 587.47	ELIZABETH SOTO	304	0.0070	
TC 587.48	ANDRA A. SHOVSKY AND HIS WIFE	308	0.0071	
TC 587.49	VIRGINIA RIVERA AND HIS WIFE	396	0.0091	
TC 587.50	LINCOLNWOOD JEWISH CONGREGATION	510	0.0117	

NOTES:

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

N

100 50 0 100 200 300 FEET

50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF HIGHWAY
COOK COUNTY, ILLINOIS

TOM PRECKWINKLE
PRESIDENT BOARD OF COMMISSIONERS

JOHN YONAN
SUPERINTENDENT OF HIGHWAYS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN: I.N. CARRERA DATE:
SCALE: 1" = 100' (1:1200) CHECKED: M.A. HADI
SURVEY NO. APPROVED:
APPROVED: COUNTY HIGHWAY SYSTEM NO. SHEET NO. TOTAL SHEETS PLAT NO.
CHIEF ENGINEER OF BHW 08-HWA337-03-PV 2 4 98

NO.	DATE	BY	DESCRIPTION	APPR.
2	7-15-13	SMC	REVISED OWNERSHIP TABLE	
1	4-5-13	SMC	DELETED N. 981.42 & E. 1861.43 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

REVISIONS

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 26 & 27, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
ENGEL'S KENILWORTH AVENUE HIGHLANDS
REC. 10-30-1925 DOC. 9062728

"B"
KREMN & DATO'S CRAWFORD-CHASE "L" SUBDIVISION
REC. 12-27-1924 DOC. 8720220

"C"
FRED P. FORTMAN'S ADDITION TO LINCOLNWOOD
REC. 11-13-1956 DOC. 16753498

"D"
SPACKEEN'S CRAWFORD-JARVIS SUBDIVISION
REC. 1-30-1929 DOC. 10271785

"E"
KREMN & DATO'S CRAWFORD "L" SUBDIVISION
REC. 5-24-1924 DOC. 8435087

"F"
KREMN & DATO'S SECOND HOWARD ST. & CRAWFORD AVE. SUBDIVISION
REC. 5-24-1924 DOC. 8435081

"G"
KREMN & DATO'S HOWARD ST. & CRAWFORD AVE. SUBDIVISION
REC. 5-24-1924 DOC. 8435080

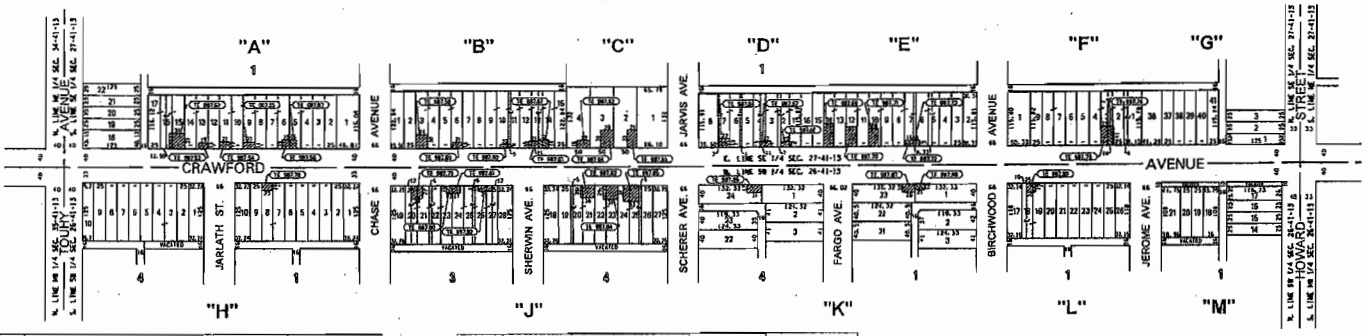
"H"
CRAWFORD TOWNY PRAIRIE ROAD SUBDIVISION
REC. 1-2-1924 DOC. 8238126

"J"
ENGEL'S CRAWFORD-CHASE SUBDIVISION
REC. 1-27-1927 DOC. 9534508

"K"
ANTERRY SUBDIVISION
REC. 2-20-1953 DOC. 15551001

"L"
CRAWFORD'S SUBDIVISION
REC. 8-16-1824 DOC. 8421875

"M"
SALACH'S HOWARD-CRAWFORD SUBDIVISION
REC. 8-4-1924 DOC. 8838570



TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
~~TE 557.51~~	~~YESHIA A. GANNAM AND HIS WIFE~~	~~954~~	~~0.0220~~	DELETED
TE 557.52	[illegible]	1,023	0.0235	
TE 557.53	GINA FANUS	247	0.0057	
TE 557.54	ANTHONY M. FLORES AND HIS WIFE	323	0.0032	
TE 557.55	SHRAWN K. SHRESTHA AND HIS WIFE	378	0.0087	
TE 557.56	AN UNDIVIDED 1/2 INTEREST TO EDYE L. RAMSHAW, AS TRUSTEE OF THE EDYE L. RAMSHAW TRUST DATED AN UNDIVIDED 1/2 INTEREST TO ADRIENNE A. BERGIN	325	0.0059	
TE 557.57	ALFREDO L. CATUS AND HIS WIFE	295	0.0092	
TE 557.58	SALLY CHO AND RUTH L. DU AND LY G. SANG AND FENG LI, ONE	730	0.0168	
TE 557.59	DABUAL G. PATEL AND HIS WIFE	372	0.0543	
TE 557.60	LUKE ARMSTRONG	196	0.0015	
TE 557.61	YASSILIOS BALAS AND HIS WIFE	315	0.0072	
TE 557.62	RANDY DUFFY	386	0.0091	
TE 557.63	ANTOINE JASSER AND HIS WIFE	464	0.0107	
TE 557.64	JOSEPH FORESTE AND HIS WIFE	1,052	0.0251	
TE 557.65	RENATO D. YANONG AND HIS WIFE	519	0.0132	
TE 557.66	ANTHONY C. CLANCY AND DARLENE F. CLANCY	418	0.0096	
TE 557.67	1244 WILKENTON AND HIS WIFE	295	0.0059	
TE 557.68	CHICAGO TITLE LAND TRUST COMPANY TRUST NO. 8002342396	264	0.0061	
TE 557.69	WISOOD SHIMKHADAD AND HIS WIFE	1,102	0.0253	
TE 557.70	ANIS A. GABR AND HIS WIFE	696	0.0277	
TE 557.71	MADHVIND LADA	782	0.0179	
TE 557.72	MARIA M. SILVA	208	0.0048	

TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TE 557.73	WINDHUA ZHANG AND CATHERINE H. DEAN	155	0.0045	
~~TE 557.74~~	~~SARA IGNUS~~	~~215~~	~~0.0066~~	DELETED
TE 557.75	SOFIA PANGILINAN SANTOS	615	0.0141	
TE 557.76	JACQUELYN MULFORD AND CHU MEE KAM	533	0.0122	
~~TE 557.77~~	~~[illegible]~~	~~705~~	~~0.0162~~	DELETED
TE 557.78	RAJA PIAS AND HIS WIFE	368	0.0044	
TE 557.79	ALKESH C. DHARMESH AND STEWART SOLOMON	648	0.0149	
TE 557.80	KEVIN ORR AND HIS WIFE AS TRUSTEES OF THE ORR FAMILY LIVING TRUST 2011	308	0.0048	
TE 557.81	ANI B. GHERALA AND USHABEN B. GHERALA AND DIPENDRAKUMAR L. GHERALA	272	0.0062	
TE 557.82	KAUTILYA B. PATEL AND HIS WIFE	241	0.0078	
TE 557.83	ANGELO SPOSTOLOU AND HIS WIFE	780	0.0179	
TE 557.84	SAMIR BOUSMAN AND ALIS BOUSMAN	926	0.0213	
TE 557.85	FOTIS ROULOURIS AND HIS WIFE	1,132	0.0258	
TE 557.86	MICHAEL ANTHONY ROBERTS	521	0.0121	
TE 557.87	JOSEPH THOMAS AND HIS WIFE	468	0.0107	
TE 557.88	RITA E. VANDERBILT AS TRUSTEE OF THE RITA A. VANDERBILT REVOCABLE TRUST DATED OCT. 2003	252	0.0058	
TE 557.89	PERVAIZ HASSAN AND HIS WIFE	380	0.0087	

NOTES:

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

(DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

NO.	DATE	BY	DESCRIPTION
2	7-16-13	IMC	REVISED OWNERSHIP TABLE
1	4-9-13	IMC	DELETED TE 557.52, TE 557.74 & TE 557.77 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013

REVISIONS

N

100 50 0 100 200 300 FEET
50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

TONI PRECKWINKLE, PRESIDENT BOARD OF COMMISSIONERS
JOHN YONAKI, SUPERINTENDENT OF HIGHWAYS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT CRAWFORD AVENUE
OEVON AVENUE TO OAKTON STREET

DESIGN: I.M. CABRERA DATE:
SCALE: 1" = 100' (1:1200) CHECKED: K.P. DESAI
SURVEY NO. APPROVED:
APPROVED: COUNTY HIGHWAY ENGINEER

SHEET NO.	TOTAL SHEETS	PLAT
3	4	98

08-WR337-03-PV

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 26 & 27, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
GEO. F. NIXON & CO'S RAPID TRANSIT PARK
REC. 11-12-24 DOC. 8667210

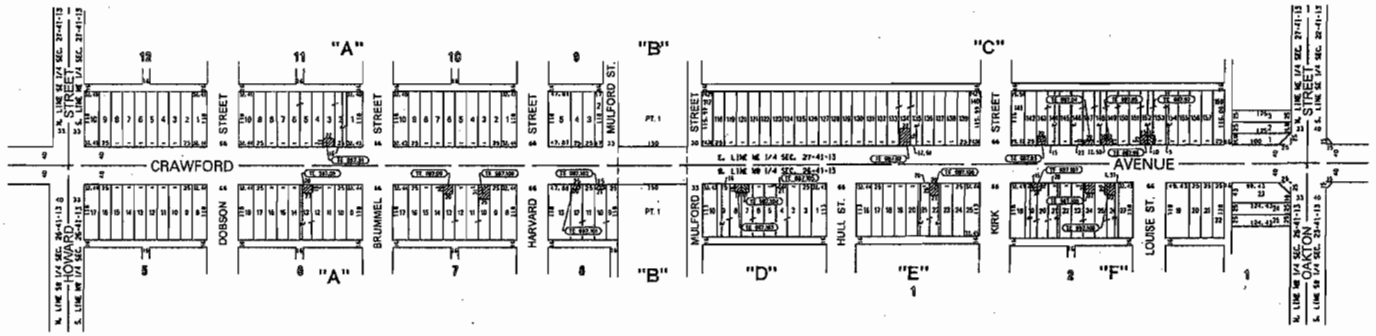
"B"
HENRY WARRER ESTATE PARTITION
REC. 1-5-07 DOC. 3290745

"C"
KRENN & DATO'S CRAWFORD AVE. & OAKTON ST. "L" SUBDIVISION
REC. 3-28-24 DOC. 8538109

"D"
KRENN & DATO'S CRAWFORD AVE. & EAST PRAIRIE ROAD "L" TERMINAL SUBDIVISION
REC. 11-7-24 DOC. 8652243

"E"
EAST PRAIRIE ROAD CRAWFORD ADDITION TO NILES CENTER
REC. 6-12-25 DOC. 8506813

"F"
GEORGE F. NIXON & CO'S OAKTON CRAWFORD SUBDIVISION
REC. 7-15-24 DOC. 8511595



TRACT NUMBER	OWNER	PART TAKEN SQ FT	PART TAKEN ACRES	NOTES
RE-DEV-90	DEVON-WABASH PL	550	0.0095	DELETED
TE 581, 31	MIGELIO BAGDONAS AND HIS WIFE	356	0.0081	
TE 581, 52	MARY DEARICH	799	0.0183	
TE 581, 53	VIVENCIO F. GLIANE AND HIS WIFE	380	0.0087	
TE 581, 54	CRISTY GARCIA	230	0.0051	
TE 581, 55	EDARO KILTAN AND JUDY KUAI	276	0.0063	
TE 581, 56	JOHN G. SUNDQUIST AND PAMELA S. CAPUTO	300	0.0068	
TE 581, 57	RODRALLIA JEVONS AND HIS WIFE	280	0.0064	
TE 581, 59	LISA FELD AND YISSAEL WELTMAN	414	0.0095	
TE 581, 95	PARESH N. BODALIA AND HIS WIFE	400	0.0092	
TE 581, 100	JAYJIKUMAR G. DHAGAT AND JYOTSHABEN A. DHAGAT	775	0.0178	
TE 581, 101	MOHAMAD I. IBRAHIM	180	0.0041	
TE 581, 102	MOHAMAD ALI LOUAI AND HIS WIFE	310	0.0048	
TE 581, 103	A. B. RATHOD AND HIS WIFE	252	0.0058	
TE 581, 104	BOBBY C. PINDU AND HIS WIFE	305	0.0070	
TE 581, 105	LYNNA A. THOMPSON AND HIS WIFE	159	0.0043	
TE 581, 106	GEORGE P. SPANDILIS AND HIS WIFE	546	0.0125	
TE 581, 107	TONI MENGARELLI	391	0.0083	
TE 581, 108	MARIA OSMANOVIC	487	0.0105	
TE 581, 109	MICHAEL A. ADAMS	550	0.0126	

NOTES:

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

NO	DATE	BY	REVISIONS
1	4-5-13	TMC	DELETED TE 581, 30 AS PER DESIGN
			REVISED PARCEL 581, DATED 4-1-2013
			REDEFINE

N

100 50 0 100 200 300 FEET
50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

TONI PRECKWINKLE
PRESIDENT BOARD OF COMMISSIONERS

JEFFREY HAMM
SUPERINTENDENT OF HIGHWAYS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN I. M. CABRERA DATE
SCALE 1" = 100' (1:1200) CHECKED K. P. DEEN
SURVEY NO. APPROVED
APPROVED

SHEET NO.	TOTAL SHEETS	PLAN NO.
4	4	98

08-W6237-03-PV

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 34 & 35, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
ASSESSOR'S DIVISION OF THE SE 1/4, SOUTH OF KENDRICK CRAWFORD NORTH SHORE ADDITION TO WEST ROGERS PARK IN SEC. 34-41-13

"B"
KENDRICK CRAWFORD NORTH SHORE ADDITION TO WEST ROGERS PARK
REC. 3-19-1928 DOC. 9959894

"C"
LINCOLN-CRAWFORD-PRATT BOULEVARD SUBDIVISION
REC. 6-1-1925 DOC. 8930756

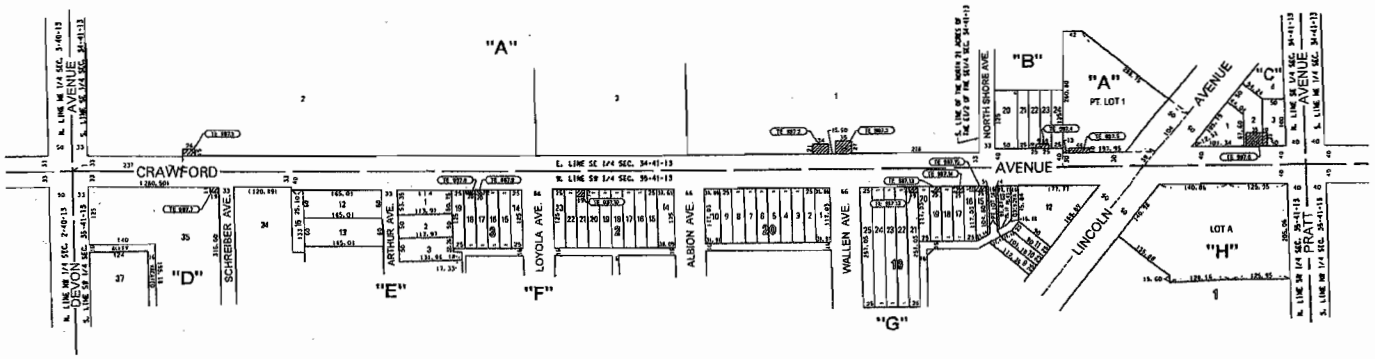
"D"
JOHN PROESEL ESTATE PARTITION
REC. 9-5-1923 DOC. 8090987

"E"
LINCOLNWOOD VENTURE RESUBDIVISION
REC. 1-9-1987 DOC. 87016048

"F"
CRAWFORD-DEVON SUBDIVISION 1ST ADDITION
REC. 3-17-1926 DOC. 9209604

"G"
LINCOLN AVE. GARDENS
REC. 2-11-1927 DOC. 9548461

"H"
LINCOLN-CRAWFORD-PRATT COMMERCIAL CENTER
REC. 8-25-1983 DOC. 18258274



TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TE 987.1	BRYN MAWR COUNTRY CLUB	370	0.0030	
TE 987.2	BRYN MAWR COUNTRY CLUB	714	0.0164	
TE 987.3	BRYN MAWR COUNTRY CLUB	945	0.0217	
TE 987.4	JEFFERSON STATE BANK, AS TRUSTEE, UNDER TRUST NUMBER 0015	280	0.0064	
TE 987.5	J SAAB, L.P.	440	0.0101	
TE 987.6	BUCHANAN ENERGY (NE), LLC	1,300	0.0300	
TE 987.7	440 WEST WASHINGTON LLC	203	0.0046	
TE 987.8	ZAFONT OSMAN	160	0.0037	
TE 987.9	YCYSEF JOSIAH ZAYDLOVICH AND HIS WIFE	200	0.0046	
TE 987.10	LUDNA K. VASANT	285	0.0065	
~~TE 987.11~~	~~SAMUEL ROSENTHAL~~	~~615~~	~~0.0050~~	DELETED
TE 987.12	SWEDED TIRES CLUB TRUST COMPANY, TRUSTEE UNDER TRUST NUMBER 120826	328	0.0052	
TE 987.13	CLAUDE ROGER PETIT	275	0.0063	
TE 987.14	BERNARDO S. POPAL	325	0.0025	
TE 987.15	VALENTIN IONESCU AND HIS WIFE	250	0.0057	

NOTES

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

NO.	DATE	BY	REVISION	APPR.
1	4-5-13	SMC	DELETED TE 987.11 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

N

100 50 0 100 200 300 FEET
50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

TOM PRECKWINKLE, PRESIDENT COOK COUNTY BOARD OF COMMISSIONERS
JOHN YONAN, SUPERINTENDENT OF HIGHWAYS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT: CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN: L.M. CABRERA DATE:
SCALE: 1" = 100' (1:1200) CHECKED: M.A. HADI
SURVEY NO.: APPROVED:
APPROVED: COUNTY HIGHWAY ENGINEER

COUNTY HIGHWAY SECTION NO.	SHEET NO.	TOTAL SHEETS	PLAT NO.
08-W4137-03-PV	1	4	98

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 34 & 35, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
LINCOLN-CRAWFORD-PRATT BOULEVARD SUBDIVISION
REC. 8-1-1925 DOC. 8950256

"B"
LINCOLN-CRAWFORD MANOR SUBDIVISION
REC. 12-9-1929 DOC. 9120562

"C"
WARTELL'S SUBDIVISION
REC. 5-2-1926 DOC. 9193516

"D"
WITTBOLD'S SECOND ADDITION TO KENILWORTH HIGHLANDS SUBDIVISION
REC. 1-21-1927 DOC. 9326985

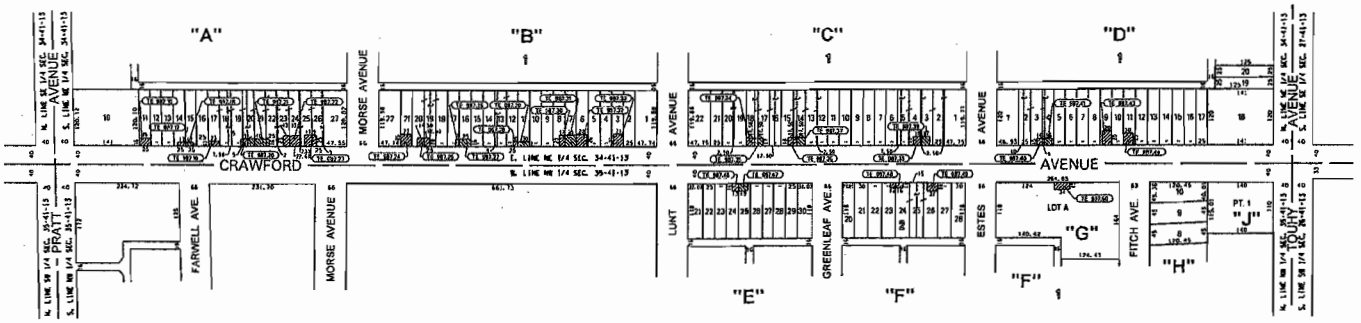
"E"
CRAWFORD-LUNT SUBDIVISION
REC. 6-23-1954 DOC. 15941839

"F"
ENGEL & BECKER'S KENILWORTH AVENUE SUBDIVISION
REC. 2-13-1924 DOC. 8282456

"G"
CONSOLIDATION OF LOTS 20 TO 28 (EX. W. 7FT. TAKEN FOR STREET) AND ALL OF LOT 29 TOGETHER WITH VACATED ALLEY
REC. 3-9-1961 DOC. 18104937

"H"
FIMOFF'S RESUBDIVISION
REC. 5-24-1954 DOC. 15915070

"J"
SUBDIVISION OF NORTH 10 ACRES
REC. 4-15-1913 DOC. 5167450



TRACT NUMBER	OWNER	PART TAKEN SQ. FT	PART TAKEN ACRES	NOTES
TC 987.16	WAHAB M. RIZVI	400	0.0092	
TC 987.17	KONSTANTINOS PSYKOSIS AND HIS WIFE	136	0.0031	
TC 987.18	HERMP BANK & TRUST COMPANY N.A. (TRUST NO. 11-5592	136	0.0031	
TC 987.19	MARTIN MIRTA AND SVETLANA MIRTA	253	0.0058	
TC 987.20	PIERRE R. GUILLAUME AND HIS WIFE	240	0.0055	
TC 987.21	GERTRUDE A. SCHAFFNER AND LISA SCHAFFNER	736	0.0169	
TC 987.22	PHOEBE AND CHAU ACHYEN	828	0.0190	
TC 987.23	IDA L. ZAZRA AND HIS WIFE	650	0.0149	
TC 987.24	WILLIAM H. LEE, EDDIE LEE, GONTA LEE ETAL AND MONICA LEE	598	0.0137	
TC 987.25	WILLIAM H. LEE, EDDIE LEE, GONTA LEE ETAL AND MONICA LEE	486	0.0116	
TC 987.26	JAMAL S. KAMA AND HIS WIFE	112	0.0026	
TC 987.27	HAIM ZATS AND HIS WIFE	400	0.0092	
TC 987.28	TRUSTEES OF THE HAROLD WEISS AND RUTH WEISS REVOCABLE LIVING TRUST	110	0.0025	
TC 987.29	YOSUF A. LLAMA AND HIS WIFE	330	0.0076	
TC 987.30	RITA PERRELLI LIVING TRUST & MARY L. PERRELLI REVOCABLE TRUST	300	0.0069	
TC 987.31	CHARLES B. SNYDER AND HIS WIFE	625	0.0143	
TC 987.32	ANNA GREENMAN AND MOLLY GREENMAN	572	0.0131	
TC 987.33	ELENA L. BOSTEIN, KELLY E. HOUSTON, MITCHELL ROBERT AGATIN, MANDEL AND VERA CEMENT, MANDEL	567	0.0130	
TC 987.34	JOHN KOTSIMBOS AND HIS WIFE	378	0.0086	
TC 987.35	CHARLES J. MC ALLISTER AND HIS WIFE	295	0.0068	

TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TC 987.36	FRANCES FISHERMAN, BARBARA GRIFFIN, JOEL STONE	315	0.0072	
TC 987.37	MARY JANE DALAY	315	0.0072	
TC 987.38	MARCELLOS VENETOS AND HIS WIFE	342	0.0078	
TC 987.39	DIANE M. DONEGAN LIVING TRUST	323	0.0074	
TC 987.40	OSMAN GOLTSI	240	0.0055	
TC 987.41	PETER TORALIS	240	0.0055	
~~TC 987.42~~	~~TRUSTEE, DONOVAN CRAIG AND CHRISTINE DONOVAN, CO-TRUST~~	~~315~~	~~0.0198~~	DELETED
TC 987.43	IRVING BERMAN REVOCABLE TRUST	600	0.0138	
TC 987.44	MARIA A. MAJI AND HIS WIFE	369	0.0119	
~~TC 987.45~~	~~TRUSTEE~~	~~325~~	~~0.0075~~	DELETED
TC 987.46	YA MING TSIAN AND HIS WIFE	208	0.0048	
TC 987.47	ELIZABETH SETS	304	0.0070	
TC 987.48	ANDRA J. SHOMSKY AND HIS WIFE	308	0.0071	
TC 987.49	VIRGINIA PERRIS AND HIS WIFE	396	0.0091	
TC 987.50	LINCOLNWOOD JEWISH CONGREGATION	510	0.0117	

NOTES

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

N

NO.	DATE	BY	REVISIONS DESCRIPTION	APVD.
2	7-16-13	INC	REVISED OWNERSHIP TABLE	
1	4-5-13	INC	DELETED N 987.42 & SL 987.45 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN J. M. CABRERA DATE
SCALE 1" = 100' (1:1200) CHECKED M. A. HADI
SURVEY NO. APPROVED
APPROVED

SHEET NO.	TOTAL SHEETS	PLAT NO.
2	4	98

08-W4337-03-PV

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 26 & 27, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
ENGEL'S KENILWORTH AVENUE HIGHLANDS
REC. 10-30-1925 DOC. 9082728

"B"
KRENN & DATO'S CRAWFORD-CHASE "L" SUBDIVISION
REC. 12-27-1924 DOC. 8730220

"C"
FRED P. FORTMAN'S ADDITION TO LINCOLNWOOD
REC. 11-13-1956 DOC. 16763498

"D"
SPACKEEN'S CRAWFORD-JARVIS SUBDIVISION
REC. 1-30-1929 DOC. 10271769

"E"
KRENN & DATO'S CRAWFORD "L" SUBDIVISION
REC. 5-24-1924 DOC. 8435082

"F"
KRENN & DATO'S SECOND HOWARD ST. & CRAWFORD AVE. SUBDIVISION
REC. 5-24-1924 DOC. 8435081

"G"
KRENN & DATO'S HOWARD ST. & CRAWFORD AVE. SUBDIVISION
REC. 5-24-1924 DOC. 8435080

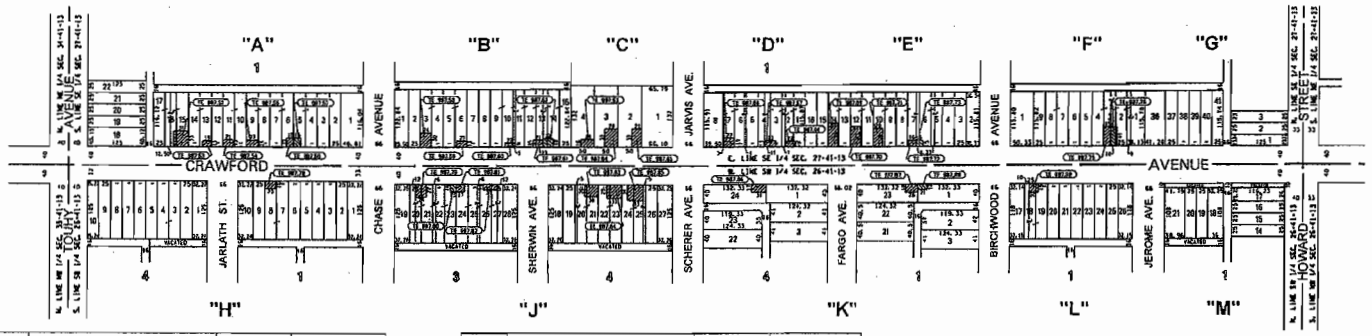
"H"
CRAWFORD TOLNAY PRAIRIE ROAD SUBDIVISION
REC. 1-2-1924 DOC. 8238126

"J"
ENGEL'S CRAWFORD-CHASE SUBDIVISION
REC. 1-27-1927 DOC. 9934308

"K"
ANTERRY SUBDIVISION
REC. 2-20-1953 DOC. 15551001

"L"
CRAWFORD'S SUBDIVISION
REC. 8-16-1924 DOC. 8421875

"M"
SALACH'S HOWARD-CRAWFORD SUBDIVISION
REC. 8-4-1924 DOC. 8538370



TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TE 987.50	~~REGINA M. LUKMAN AND HIS WIFE~~	~~154~~	~~0.0190~~	DELETED
TE 987.51	~~CHRISTOS TSILIANIDIS AS TRUSTEE OF THE TSILIANIDIS LIVING TRUST DATED~~	1,023	0.0235	
TE 987.53	DINA TZAVELIS	247	0.0057	
TE 987.54	ANTHONY M. FLORES AND HIS WIFE	335	0.0077	
TE 987.55	SHRABAN K. SHRESTHA AND HIS WIFE	378	0.0087	
TE 987.56	AN UNDIVIDED 1/2 INTEREST TO EDYE S. RAVENSKY AS TRUSTEE, OF THE EDYE S. RAVENSKY TRUST DATED~~ AN UNDIVIDED 1/2 INTEREST TO JOHNSONE K. BERGIN	305	0.0068	
TE 987.57	ALFREDO L. CATTIS AND HIS WIFE	293	0.0065	
TE 987.58	SALLY LEIB AND DAREN LEIB AND LE G. DANE AND KARL L. KANE	730	0.0165	
TE 987.59	BABALAL G. PATEL AND HIS WIFE	273	0.0063	
TE 987.60	LARS ANNALIESSOM	183	0.0045	
TE 987.61	YASSILLOS BALAS AND HIS WIFE	315	0.0072	
TE 987.62	ANDY DUFFY	396	0.0091	
TE 987.63	ANTOINE JASSER AND HIS WIFE	764	0.0107	
TE 987.64	JOSEPH TONELITI AND HIS WIFE	1,092	0.0251	
TE 987.65	HOWARD G. YUNING AND HIS WIFE	819	0.0190	
TE 987.66	ANTHONY C. CLANCY AND DARLENE F. CLANCY	418	0.0095	
TE 987.67	ISAM MOKHEMAR AND HIS WIFE	298	0.0065	
TE 987.68	~~CHICAGO TITLE LAND TRUST COMPANY TRUST NO. 1103122~~	264	0.0061	
TE 987.69	HASSAN SHUBAIKHALAT AND HIS WIFE	4,180	0.0853	
TE 987.70	AMIS A. GHORI AND HIS WIFE	960	0.0207	
TE 987.71	KHOSHING LAZAR	730	0.0170	
TE 987.72	MARIA M. SILVA	268	0.0048	

TRACT NUMBER	OWNER	PART TAKEN SQ. FT.	PART TAKEN ACRES	NOTES
TE 987.73	WINGHAR JHANG AND CATHERINE K. DIAM	195	0.0045	
~~TE 987.74~~	~~SAME AS#73~~	~~733~~	~~0.0169~~	DELETED
TE 987.75	SOFIA PAPADAKAKIS SAMIOS	615	0.0141	
TE 987.76	JACQUELYNN RUCCIFORD AND CHUL MEE KIM	533	0.0122	
~~TE 987.77~~	~~CHICAGO TITLE LAND TRUST COMPANY AS TRUSTEE U/T/A DATED 12/15/1988 AND KNOWN AS TRUST NO. 1103122~~	~~700~~	~~0.0161~~	DELETED
TE 987.78	RAJA FIAZ AND HIS WIFE	386	0.0089	
TE 987.79	RAJESH K. DATHESH AND STEWART SOLOMON	648	0.0149	
TE 987.80	KEVIN DAO AND SUE HUA AS TENANTS OF THE ~~DAO FAMILY TRUST DATED JULY 2001~~	808	0.0048	
TE 987.81	~~DAO FAMILY TRUST DATED JULY 2001~~	772	0.0062	
TE 987.82	NAUTILYA B. PATEL AND HIS WIFE	341	0.0078	
TE 987.83	ANGELO APOSTOLOU AND HIS WIFE	780	0.0179	
TE 987.84	SAMIR BOUDAIH AND ALES BOUDAIH	928	0.0213	
TE 987.85	FOTIS KIRALIDIES AND HIS WIFE	1,127	0.0258	
TE 987.86	MICHAEL ANTHONY ROBERTS	527	0.0121	
TE 987.87	JOSEPH THOMAS AND HIS WIFE	458	0.0107	
TE 987.88	~~THE U. TRUSTEE/TRUSTEE'S DEED IN THE NAME OF NUMBER(S) RECORDED UNDER DOCUMENT 2042~~	252	0.0058	
TE 987.89	PERVAIZ HASSAN AND HIS WIFE	280	0.0057	

NOTES:

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF

DIMENSIONS SHOWN IN PARENTHESES ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

NO.	DATE	BY	DESCRIPTION	APPR.
2	7-16-13	SMC	REVISED OWNERSHIP TABLE	
1	4-9-13	SMC	DELETED TE 987.51, TE 987.74 & TE 987.77 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

REVISIONS

N

100 50 0 100 200 300 FEET
50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

JOHN PRECKWINKLE
PRESIDENT BOARD OF COMMISSIONERS

JOHN VOVAN
SUPERINTENDENT OF HIGHWAYS

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT: CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN: L.M. CABRERA DATE:
SCALE: 1" = 100' (1:1200) CHECKED: R.P. DESAI
SURVEY NO. APPROVED:
APPROVED: COUNTY HIGHWAY SECTION NO. SHEET NO. TOTAL SHEETS PLAT
CHIEF ENGINEER OF DOH 08-WR337-03-PV 3 4 98

RIGHT OF WAY PLAT

CRAWFORD AVENUE

IN SECTIONS 26 & 27, TOWNSHIP 41 NORTH,
RANGE 13 EAST OF 3RD PRINCIPAL MERIDIAN

"A"
GEO. F. NIXON & CO'S RAPID TRANSIT PARK
REC. 11-12-24 DOC. 8667210

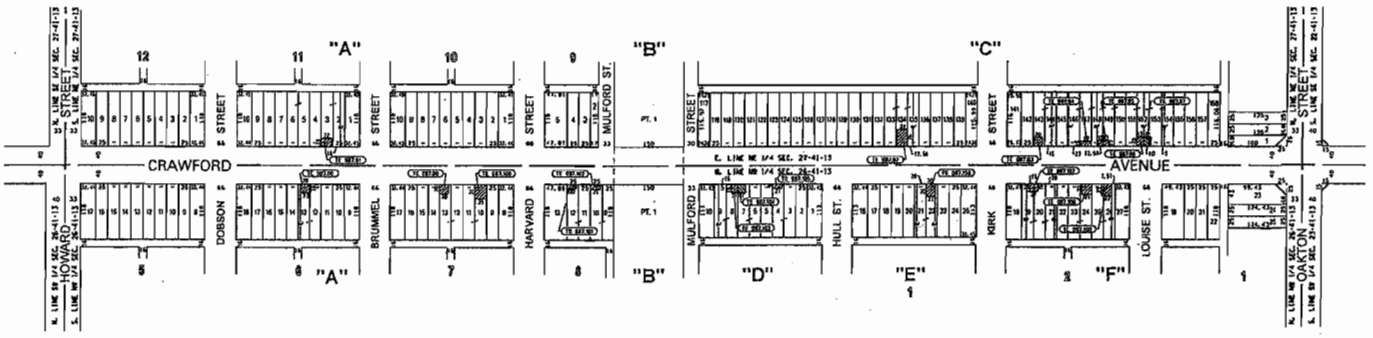
"B"
HENRY HARRER ESTATE PARTITION
REC. 9-5-02 DOC. 3290745

"C"
KRENN & DATO'S CRAWFORD AVE. & OAKTON ST. "L" SUBDIVISION
REC. 3-28-24 DOC. 8338109

"D"
KRENN & DATO'S CRAWFORD AVE. & EAST PRAIRIE ROAD "L" TERMINAL SUBDIVISION
REC. 11-7-24 DOC. 8683243

"E"
EAST PRAIRIE ROAD CRAWFORD ADDITION TO MILES CENTER
REC. 8-12-26 DOC. 9306813

"F"
GEORGE F. NIXON & CO'S OAKTON CRAWFORD SUBDIVISION
REC. 7-15-24 DOC. 8511825



TRACT NUMBER	OWNER	PART TAKEN SQ FT	PART TAKEN ACRES	NOTES
[illegible]	[illegible]	550	0.0126	DELETED
TE 987.91	ANGELIO GAGDAGAN AND HIS WIFE	396	0.0091	
TE 987.92	MARY GRAWICH	782	0.0187	
TE 987.93	VIVENCIO F. GLEANE AND HIS WIFE	360	0.0087	
TE 987.94	CRISTY GARCIA	220	0.0051	
TE 987.95	EASMO KILYAN AND ISIDH KOMA	276	0.0063	
TE 987.96	JOHN G. SUNDQUIST AND PAMELA S. CAPUTO	320	0.0065	
TE 987.97	MOORALLAH JIWANI AND HIS WIFE	290	0.0064	
TE 987.98	LILA FELD AND VIGAEL WELTMAN	414	0.0095	
TE 987.99	PARESH N. BODALIA AND HIS WIFE	400	0.0092	
TE 987.100	ARVINDKUMAR U. BHAGAT AND JYOTSHABEN A. BHAGAT	775	0.0178	
TE 987.101	MOHAMMAD IBRAHIM	180	0.0041	
TE 987.102	MOHAMMED ALI LOONIA AND HIS WIFE	210	0.0048	
TE 987.103	P. S. RAYMOND AND HIS WIFE	252	0.0058	
TE 987.104	BOBBY C. PINON AND HIS WIFE	308	0.0070	
TE 987.105	LINDAL A. THOMPSON AND HIS WIFE	189	0.0043	
TE 987.106	GEORGE P. GRANDULIS AND HIS WIFE	546	0.0125	
TE 987.107	TONI MENGANELLI	384	0.0088	
TE 987.108	MERSA OSMANOVIC	432	0.0100	
TE 987.109	MICHAEL J. DONAN	550	0.0126	

NOTES:

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DIMENSIONS SHOWN IN PARENTHESIS ( ) ARE FIELD OR CALCULATED DISTANCES

℄ DENOTES PROPERTY LINE

NO.	DATE	BY	DESCRIPTION	APPR.
1	4-5-13	MAC	DELETED TE 987.90 AS PER DESIGN BUREAU EMAIL DATED 4-1-2013	

REVISIONS

N

100 50 0 100 200 300 FEET

50 0 50 100 METERS

DEPARTMENT OF HIGHWAYS
BUREAU OF RIGHT-OF-WAY
COOK COUNTY, ILLINOIS

TONI PRECKWINKLE
PRESIDENT BOARD OF COMMISSIONERS

JOHN TOWN
SUPERINTENDENT OF HIGHWAY

PLAT OF PROPERTY TO BE ACQUIRED FOR HIGHWAY PURPOSES

PROJECT CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET

DRAWN I. M. CABRERA DATE
SCALE 1" = 100' (1:1200) CHECKED R. P. DEBAY
SURVEY NO. APPROVED
APPROVED

COUNTY HIGHWAY DESIGN NO. 08-W4337-03-PV | SHEET NO. 4 | TOTAL SHEETS 4 | PLAT 98

COUNTY OF COOK

CHICAGO, ILLINOIS

PROPOSAL

For a County Highway Improvement in the County of Cook, State of Illinois,

known as Crawford Avenue

Route W43 *Section* 08-W4337-03-PV

From Devon Avenue to Oakton Street

LOCATION OF IMPROVEMENT

The proposed improvement is part of the public highway system in the County of Cook, State of Illinois, located by section before mentioned, and is indicated on the map showing the County Highway System on file in the office of the County Clerk and also in the office of the Illinois Department of Transportation, Division of Highways, Springfield, Illinois.

The improvement to Crawford Avenue begins at Station 977+29, a point approximately 29 feet north of the centerline of Devon Avenue, and extends in a northerly direction to Station 1080+90, a point approximately 184 feet south of the centerline of Oakton Street, for a distance of 10,361 feet (1.962 miles). Also included is an omission at Touhy Avenue, at station 1028+00 to station 1031+00 of the centerline of Crawford Avenue, for a distance of 300 feet (0.057 miles). Also included is an omission at Jerome Street to Dobson Street, at station 1052+70 to station 1059+90 of the centerline of Crawford Avenue, for a distance of 720 feet (0.136 miles). Also included is an omission at the railroad crossing at station 1068+60.54 to station 1069+02.20 of the centerline of Crawford Avenue, for a distance of 41.66 feet (0.008 miles). The improvement and omissions total 9,299 feet (1.761 miles).

The improvement is located within the Village of Lincolnwood, and Village of Skokie.

DESCRIPTION OF IMPROVEMENT

This is a Quality Control/Quality Assurance project.

It is the intent of this contract to provide for the reconstruction of Crawford Avenue North of Devon Avenue. Crawford Avenue North of Devon Avenue will be widened by one (1) foot and reduce the existing sixteen (16) feet median width starting near Farwell Avenue to about ten (10) feet. The proposed four lane road will have an eleven (11) feet lane width each. The existing pavement of Crawford Avenue shall be completely removed and then reconstructed with 10 inch P. C. Concrete Pavement with a 12 inch Aggregate Subgrade on the main line North of Devon Avenue. This project includes the removal and replacement of existing drainage structures, storm sewers, parkway catch basins and sewers, removal and replacement of the traffic signals, railroad gate relocation, water meter installation, watermain work for the Village of Lincolnwood, reconstruction of side streets to the curb return, pavement markings, signing, landscaping with topsoil and sodding and tree planting, detour routing, construction staging, traffic protection and all other work as required to complete the improvement.

ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENTS
INDEX

Section	Description
Instructions	Instructions for Completion of Economic Disclosure Statement
	Insert IDOT Certificate of Eligibility
	Insert IDOT Affidavit of Availability
1	MBE/WBE Utilization Plan
2	Letter of Intent from MBE/WBE to Perform as Subcontractor, Supplier and/or Consultant
3	Petition for Reduction/Waiver of MBE/WBE Participation Goals
4	Contractor Certifications
5	Required Disclosures (Lobby, Local Business Preference, Real Estate Ownership) Affidavit of Child Support Obligations Disclosure of Ownership Interest Statement Familial Relationship Disclosure Provision
6	Contractor's Certification Concerning Labor Standards & Prevailing Wage Requirements Subcontractor's Certification Concerning Labor Standards & Prevailing Wage Requirements
7	Execution Pages: Sole Proprietor Signature Page Partnership Signature Page Corporation Signature Page Cook County Signature Page

INSTRUCTIONS FOR COMPLETION OF ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENT

This Economic Disclosure Statement and Execution Document ("EDS") is to be completed and executed by every Bidder on a County contract, every party responding to a Request for Proposals or Request for Qualifications "(Proposer"), and others as required by the Cook County Chief Procurement Officer. If the Undersigned is awarded a contract pursuant to the procurement process for which this EDS was submitted (the "Contract"), this Economic Disclosure Statement and Execution Document shall stand as the Undersigned's execution of the Contract.

Definitions. Capitalized terms used in this EDS and not otherwise defined herein shall have the meanings given to such terms in the Instructions to Bidders, General Conditions, Request for Proposals, and Request for Qualifications, or other documents, as applicable.

"Affiliated Entity" means a person or entity that, directly or indirectly: controls the Bidder, is controlled by the Bidder, or is, with the Bidder, under common control of another person or entity. Indicia of control include, without limitation, interlocking management or ownership; identity of interests among family members; shared facilities and equipment; common use of employees; and organization of a business entity following the ineligibility of a business entity to do business with the County under the standards set forth in the Certifications included in this EDS, using substantially the same management, ownership or principals as the ineligible entity.

"Bidder," "Proposer," "Undersigned," or *"Applicant,"* is the person or entity executing this EDS. Upon award and execution of a Contract by the County, the Bidder, Proposer, Undersigned or Applicant, as the case may be, shall become the Contractor or Contracting Party.

"Proposal," for purposes of this EDS, is the Undersigned's complete response to an RFP/RFQ, or if no RFQ/RFP was issued by the County, the "Proposal" is such other bid, quote or offer submitted by the Undersigned, and in any event a "Bid" includes this EDS.

"Code" means the Code of Ordinances, Cook County, Illinois available through the Cook County Clerk's Office website (http://www.cookctyclerk.com/sub/ordinances.asp). This page can also be accessed by going to www.cookctyclerk.com, clicking on the tab labeled "County Board Proceedings," and then clicking on the link to "Cook County Ordinances."

"Contractor" or *"Contracting Party"* means the Bidder, Proposer or Applicant with whom the County has entered into a Contract.

"EDS" means this complete Economic Disclosure Statement and Execution Document, including all sections listed in the Index and any attachments.

"Lobby" or "lobbying" means to, for compensation, attempt to influence a County official or county employee with respect to any County matter.

"Lobbyist" means any person or entity who lobbies.

"Prohibited Acts" means any of the actions or occurrences which form the basis for disqualification under the Code, or under the Certifications hereinafter set forth.

Sections 1 through 3: MBE/WBE Documentation.- **(1 original set of documents)** Sections 1 and 2 must be completed in order to satisfy the requirements of the County's Minority- and Women-Owned Business Enterprise Program established in Division 8 of the Cook County's Ordinance under the Procurement Code, as set forth in the Contract Documents, if applicable. If the Undersigned believes a waiver is appropriate and necessary, Section 3, the Petition for Waiver of MBE/WBE Participation must be completed.

Section 4: Certifications. - (1 original set of documents) Section 4 sets forth certifications that are required for contracting parties under the Code. Execution of this EDS constitutes a warranty that all the statements and certifications contained, and all the facts stated, in the Certifications are true, correct and complete as of the date of execution.

Section 5: Economic and Other Disclosures Statement. - (1 original set of documents) Section 5 is the County's required Economic and Other Disclosures Statement form. Execution of this EDS constitutes a warranty that all the information provided in the EDS is true, correct and complete as of the date of execution, and binds the Undersigned to the warranties, representations, agreements and acknowledgements contained therein.

Sections 6: Execution Forms. Refer to section "Definition of Terms/Information for Bidders" for instructions of number of originals and number of copies needed when submitting a bid document.

Required Updates. The information provided in this EDS will be kept current. In the event of any change in any information provided, including but not limited to any change which would render inaccurate or incomplete any certification or statement made in this EDS, the Undersigned will supplement this EDS up to the time the County takes action, by filing an amended EDS or such other documentation as is requested.

Additional Information. The County's Governmental Ethics and Campaign Financing Ordinances, impose certain duties and obligations on persons or entities seeking County contracts, work, business, or transactions. For further information please contact the Director of Ethics at (312) 603-4304 (69 W. Washington St. Suite 3040, Chicago, IL 60602) or visit our web-site at www.cookcountygov.com and go to the Ethics Department link. The Bidder must comply fully with the applicable ordinances.

Illinois Department of Transportation

Certificate of Eligibility

Capitol Cement Co., Inc.
6231-33 North Pulaski Road Chicago, IL 60646

Contractor No 0801

WHO HAS FILED WITH THE DEPARTMENT AN APPLICATION FOR PREQUALIFICATION STATEMENT OF EXPERIENCE, EQUIPMENT AND FINANCIAL CONDITION IS HEREBY QUALIFIED TO BID AT ANY OF DEPARTMENT OF TRANSPORTATION LETTINGS IN THE CLASSES OF WORK AND WITHIN THE AMOUNT AND OTHER LIMITATIONS OF EACH CLASSIFICATION, AS LISTED BELOW, FOR SUCH PERIOD AS THE UNCOMPLETED WORK FROM ALL SOURCES DOES NOT EXCEED $97,573,000.00

001	EARTHWORK	$3,775,000
002	PCC PAVING	$10,575,000
005	HMA PAVING	$1,075,000
012	DRAINAGE	$3,725,000
017	CONCRETE CONSTRUCTION	$3,225,000
031	PAVT. TEXTUR. & SURF. REM.	$325,000
032	COLD MILL,PLAN. & ROTOMILL	$925,000
034	DEMOLITION	$200,000
08A	AGGREGATE BASES & SURF. (A)	$2,175,000
09A	HIGHWAY STRUCTURES	$1,375,000

THIS CERTIFICATE OF ELIGIBILITY IS VALID FROM 7/11/2013 TO 6/30/2014 INCLUSIVE, AND SUPERSEDES ANY CERTIFICATE PREVIOUSLY ISSUED, BUT IS SUBJECT TO REVISION OR REVOCATION, IF AND WHEN CHANGES IN THE FINANCIAL CONDITION OF THE CONTRACTING FIRM OR OTHER FACTS JUSTIFY SUCH REVISIONS OR REVOCATION.
ISSUED AT SPRINGFIELD, ILLINOIS ON 7/11/2013.

Acting Engineer of Construction

IL 494-0645

Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
Springfield, Illinois 62764

Affidavit of Availability
For the Letting of 11-6-2013

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show **NONE.**

	1	2	3	4	Awards Pending	
Contract Number	U-0-170(1)(2)	Asland-Pershing	60V41	FOSTER AVE		
Contract With	CDOT	CDOT	IDOT	CDOT		
Estimated Completion Date	12/31/2013	Aug 2014	NOV 2013	OCT 2013		
Total Contract Price	7,000,000.00	11,335,270.24	5,886,631.38	2,937,270.08		Accumulated Totals
Uncompleted Dollar Value if Firm is the Prime Contractor	250,000.00	11,335,270.24	1,200,000.00	1,100,000.00		$13,885,270.24
Uncompleted Dollar Value if Firm is the Subcontractor						
				Total Value of All Work		$13,885,270.24

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show NONE.

						Accumulated Totals
Earthwork	30,000.00	1,500,000.00	300,000.00	50,000.00		$1,880,000.00
Portland Cement Concrete Paving		1,800,000.00	280,000.00			$2,080,000.00
HMA Plant Mix		90,000.00		0.00		$90,000.00
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces		800,000.00	100,000.00	30,000.00		$930,000.00
Highway, R.R. and Waterway Structures		0.00				
Drainage	20,000.00	950,000.00		20,000.00		$990,000.00
Electrical						
Cover and Seal Coats						
Concrete Construction	80,000.00	950,000.00		30,000.00		$1,060,000.00
Landscaping		50,000.00		70,000.00		$120,000.00
Fencing				70,000.00		$70,000.00
Guardrail						
Painting						
Signing		60,000.00		40,000.00		$100,000.00
Cold Milling, Planning & Rotomilling		0.00		10,000.00		$10,000.00
Demolition		270,000.00		20,000.00		$290,000.00
Pavement Markings (Paint)						
Other Construction (List)	20,000.00	1,285,270.24	20,000.00	60,000.00		$1,385,270.24
Totals	$150,000.00	$7,755,270.24	$700,000.00	$400,000.00		$9,005,270.24

Disclosure of this information is **REQUIRED** to accomplish the statutory purpose as outlined in the "Illinois Procurement Code." Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor	AREATHA	National Wrecking	Laredo	Countryside	
Type of Work	CONCRETE	Demolition	Landscape	LANDSCAPE	
Subcontract Price	200,000.00	670,000.00	130,000.00	130,000.00	
Amount Uncompleted	20,000.00	670,000.00	110,000.00	130,000.00	
Subcontractor	METROMEX	City Lights	Iriquois	Horizon	
Type of Work	ASPHALT	ELECTRIC	Asphalt	ELECTRIC	
Subcontract Price	100,000.00	1,010,000.00	600,000.00	800,000.00	
Amount Uncompleted	30,000.00	1,010,000.00	200,000.00	450,000.00	
Subcontractor	JASSO+SONICAN	Turf Care	Areatha	Metromex	
Type of Work	TRUCKING	LANDSCAPE	Conc. reinf	ASPHALT	
Subcontract Price	140,000.00	270,000.00	180,000.00	150,000.00	
Amount Uncompleted	20,000.00	270,000.00	40,000.00	30,000.00	
Subcontractor	Great Lakes	Pan Oceanic	Work Zone Safety	Surface Const.	
Type of Work	LANDSCAPE	Sewer	Traffic+Signs	INLAID+PAVERS	
Subcontract Price	150,000.00	850,000.00	100,000.00	60,000.00	
Amount Uncompleted	20,000.00	850,000.00	60,000.00	60,000.00	
Subcontractor	MARKING SPEC.	Bigane	Ray Edwards	Central Lawn	
Type of Work	STRIPING	ASPHALT	Sewer	IRRIGATING	
Subcontract Price	30,000.00	800,000.00	450,000.00	70,000.00	
Amount Uncompleted	10,000.00	800,000.00	90,000.00	30,000.00	
Total Uncompleted	$100,000.00	$3,600,000.00	$500,000.00	$700,000.00	

I, being duly sworn, do hereby declare that this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Subscribed and sworn to before me
this 5th day of Nov., 2013

Roberta C Paskon
Notary Public

My commission expires 2-20-15

(Notary Seal)
OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15

Type or Print Name DAVID SLONIM PRESIDENT
Officer or Director Title

Signed David Slonim

Company CAPITOL CEMENT COMPANY, INC.

Address 6231 N. PULASKI ROAD

CHICAGO, IL 60646

MBE/WBE UTILIZATION PLAN (SECTION 1)

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

I. BIDDER/PROPOSER MBE/WBE STATUS: (check the appropriate line)

____ Bidder/Proposer is a certified MBE or WBE firm. (If so, attach copy of appropriate Letter of Certification)

____ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit – available from the Office of Contract Compliance)

X Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

II. ☐ Direct Participation of MBE/WBE Firms ☐ Indirect Participation of MBE/WBE Firms

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: _____

Address: _____

E-mail: _____

Contact Person: _____ Phone: _____

Dollar Amount Participation: $_____

Percent Amount of Participation: _____ %

*Letter of Intent attached? Yes _____ No _____
*Letter of Certification attached? Yes _____ No _____

MBE/WBE Firm: _____

Address: _____

E-mail: _____

Contact Person: _____ Phone: _____

Dollar Amount Participation: $_____

Percent Amount of Participation: _____ %

*Letter of Intent attached? Yes _____ No _____
*Letter of Certification attached? Yes _____ No _____

Attach additional sheets as needed.

***Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

LETTER OF INTENT (SECTION 2)

M/WBE Firm: NATURAL CREATIONS LANDSCAPING INC. Contract #: 1388-1305 | CRAWFORD AVENUE

Address: 356 E. BLISS STREET City/State/ Zip: JOLIET, ILLINOIS 60434

Contact Person: JOSE M. GARCIA Phone: 815-724-0991 Fax: 815-724-0996

Certification Expiration Date: 1/31/2014 Race/Gender: HISPANIC

Email: jgarcia@naturalcreationslandscaping.com

Participation: [X] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[X] No [ ] Yes – Please attach explanation. Proposed Subcontractor: _____

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

LANDSCAPING

Indicate the Dollar Amount, or Percentage, and the Terms of Payment for the above-described Commodities/ Services:

- FOR DOLLAR AMOUNT SEE ATTACHED SHEET = $ GRAND TOTAL
- AMOUNT PER CONTRACT SPECIFICATIONS / PROJECT SPECIFICATIONS AS AGREED.

369,108.50

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

Signature (M/WBE)	Signature (Prime Bidder/Proposer)
JOSE M. GARCIA PRESIDENT	DAVID SLONIM
Print Name	Print Name
NATURAL CREATIONS LANDSCAPING INC.	CAPITOL CEMENT CO., INC
Firm Name	Firm Name
OCTOBER 17, 2013	11-5-2013
Date	Date

Subscribed and sworn before me this 17th day of OCTOBER, 20 2013

Notary Public: Veronica Cisneros

Official Seal
Veronica Cisneros
Notary Public State of Illinois
My Commission Expires 08/20/2016

SEAL

MBE/WBE UTILIZATION PLAN (SECTION 1)

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

I. **BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line)

_____ Bidder/Proposer is a certified MBE or WBE firm. (If so, attach copy of appropriate Letter of Certification)

_____ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit – available from the Office of Contract Compliance)

_____ Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

II. ☐ **Direct Participation of MBE/WBE Firms** ☐ **Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: _____

Address: _____

E-mail: _____

Contact Person: _____ Phone: _____

Dollar Amount Participation: $_____

Percent Amount of Participation: _____ %

*Letter of Intent attached? Yes _____ No _____
*Letter of Certification attached? Yes _____ No _____

MBE/WBE Firm: _____

Address: _____

E-mail: _____

Contact Person: _____ Phone: _____

Dollar Amount Participation: $_____

Percent Amount of Participation: _____ %

*Letter of Intent attached? Yes _____ No _____
*Letter of Certification attached? Yes _____ No _____

Attach additional sheets as needed.

***Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

LETTER OF INTENT (SECTION 2)

M/WBE Firm: _____ Contract #: _____

Address: _____ City/State/ Zip: _____

Contact Person: _____ Phone: _____ Fax: _____

Certification Expiration Date: _____ Race/Gender: _____

Email: _____

Participation: [ ] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[ ] No [ ] Yes -- Please attach explanation. Proposed Subcontractor: _____

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

_____

_____

_____

_____

_____

Indicate the **Dollar Amount**, or **Percentage**, and the **Terms of Payment** for the above-described Commodities/ Services:

_____

_____

_____

_____

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

_____	_____
Signature (*M/WBE*)	Signature (*Prime Bidder/Proposer*)
_____	_____
Print Name	Print Name
_____	_____
Firm Name	Firm Name
_____	_____
Date	Date

Subscribed and sworn before me this _____ day of _____, 20____.

Notary Public _____.

SEAL

PETITION FOR WAIVER OF MBE/WBE PARTICIPATION (SECTION 3)

A. BIDDER/PROPOSER HEREBY REQUESTS:

☐ FULL MBE WAIVER ☐ FULL WBE WAIVER

☐ REDUCTION (PARTIAL MBE and/or WBE PARTICIPATION)

_____ % of Reduction for MBE Participation
_____ % of Reduction for WBE Participation

B. REASON FOR FULL/REDUCTION WAIVER REQUEST

Bidder/Proposer shall check each item applicable to its reason for a waiver request. Additionally, supporting documentation shall be submitted with this request. If such supporting documentation cannot be submitted with bid/proposal/quotation, such documentation shall be submitted directly to the Office of Contract Compliance no later than three (3) days from the date of submission date.

☐ (1) Lack of sufficient qualified MBEs and/or WBEs capable of providing the goods or services required by the contract. **(Please explain)**

☐ (2) The specifications and necessary requirements for performing the contract make it impossible or economically infeasible to divide the contract to enable the contractor to utilize MBEs and/or WBEs in accordance with the applicable participation. **(Please explain)**

☐ (3) Price(s) quoted by potential MBEs and/or WBEs are above competitive levels and increase cost of doing business and would make acceptance of such MBE and/or WBE bid economically impracticable, taking into consideration the percentage of total contract price represented by such MBE and/or WBE bid. **(Please explain)**

☐ (4) There are other relevant factors making it impossible or economically infeasible to utilize MBE and/or WBE firms. **(Please explain)**

C. GOOD FAITH EFFORTS TO OBTAIN MBE/WBE PARTICIPATION

☐ (1) Made timely written solicitation to identified MBEs and WBEs for utilization of goods and/or services; and provided MBEs and WBEs with a timely opportunity to review and obtain relevant specifications, terms and conditions of the proposal to enable MBEs and WBEs to prepare an informed response to solicitation. **(Please attach)**

☐ (2) Followed up initial solicitation of MBEs and WBEs to determine if firms are interested in doing business. **(Please attach)**

☐ (3) Advertised in a timely manner in one or more daily newspapers and/or trade publication for MBEs and WBEs for supply of goods and services. **(Please attach)**

☐ (4) Used the services and assistance of the Office of Contract Compliance staff. **(Please explain)**

☐ (5) Engaged MBEs & WBEs for indirect participation. **(Please explain)**

D. OTHER RELEVANT INFORMATION

Attach any other documentation relative to Good Faith Efforts in complying with MBE/WBE participation.

CONTRACTOR CERTIFICATIONS
(SECTION 4)

The following certifications are made pursuant to state law and the code. The undersigned is cautioned to carefully read these certifications prior to signing the signature page. Signing the signature page shall constitute a warranty by the undersigned that all the statements, certifications and information set forth within these certifications are true, complete and correct as of the date the signature page is signed. The undersigned is notified that if the county learns that any of the following certifications were falsely made, that any contract entered into with the undersigned shall be subject to termination.

A. PERSONS AND ENTITIES SUBJECT TO DISQUALIFICATION

No person or business entity shall be awarded a contract or sub-contract, for a period of five (5) years from the date of conviction or entry of a plea or admission of guilt, civil or criminal, if that person or business entity:

1) Has been convicted of an act committed, within the State of Illinois, of bribery or attempting to bribe an officer or employee of a unit of state, federal or local government or school district in the State of Illinois in that officer's or employee's official capacity;

2) Has been convicted by federal, state or local government of an act of bid-rigging or attempting to rig bids as defined in the Sherman Anti-Trust Act and Clayton Act. Act. 15 U.S.C. Section 1 *et seq.;*

3) Has been convicted of bid-rigging or attempting to rig bids under the laws of federal, state or local government;

4) Has been convicted of an act committed, within the State, of price-fixing or attempting to fix prices as defined by the Sherman Anti-Trust Act and the Clayton Act. 15 U.S.C. Section 1, *et seq.;*

5) Has been convicted of price-fixing or attempting to fix prices under the laws the State;

6) Has been convicted of defrauding or attempting to defraud any unit of state or local government or school district within the State of Illinois;

7) Has made an admission of guilt of such conduct as set forth in subsections (1) through (6) above which admission is a matter of record, whether or not such person or business entity was subject to prosecution for the offense or offenses admitted to; or

8) Has entered a plea of *nolo contendere* to charge of bribery, price-fixing, bid-rigging, or fraud, as set forth in sub-paragraphs (1) through (6) above.

In the case of bribery or attempting to bribe, a business entity may not be awarded a contract if an official, agent or employee of such business entity committed the Prohibited Act on behalf of the business entity and pursuant to the direction or authorization of an officer, director or other responsible official of the business entity, and such Prohibited Act occurred within three years prior to the award of the contract. In addition, a business entity shall be disqualified if an owner, partner or shareholder controlling, directly or indirectly, 20 % or more of the business entity or an officer of the business entity has performed any Prohibited Act within five years prior to the award of the Contract.

THE UNDERSIGNED HEREBY CERTIFIES THAT: The Undersigned has read the provisions of Section A, Persons and Entities Subject to Disqualification, that the Undersigned has not committed any Prohibited Act set forth in Section A, and that award of the Contract to the Undersigned would not violate the provisions of such Section or of the Code.

B. BID-RIGGING OR BID ROTATING

THE UNDERSIGNED HEREBY CERTIFIES THAT: *In accordance with 720 ILCS 5/33 E-11, neither the Undersigned nor any Affiliated Entity is barred from award of this Contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid rotating.*

SUBCONTRACTOR'S CERTIFICATION CONCERNING
LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS
(Section 6)

To Contractor:

Date: OCTOBER 17 2013
Project Number: 13RL-13051
Project Name CRAWFORD AVENUE

1. The undersigned, if awarded a contract with Capitol Cement Co. Inc
(Contractor)

for LANDSCAPING
(Nature of Work)

in the amount of $ 369,103.50 in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an Ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on SPRING 2014
(Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are:
NATURAL CREATIONS LANDSCAPING INC. 356 E. BRUCE STREET JOLIET, IL 60434

(b) The undersigned is (check one):
___ Sole Proprietorship
___ Partnership
_✓_ Corporation
___ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
JOSE M. GARCIA	PRESIDENT	356 E. BRUCE STREET JOLIET, IL 60434
MARY G. GARCIA	SECRETARY	" " "

DATE OCTOBER 17 2013

SUBCONTRACTOR
X
SIGNATURE
JOSE M. GARCIA PRESIDENT

DEPARTMENT OF PROCUREMENT SERVICES

CITY OF CHICAGO

October 29, 2013

Mr. Jose Garcia
Natural Creations Landscaping, Inc.
356 E. Bruce St.
Joliet, IL 60434

Dear Mr. Garcia:

This letter is to inform you that the city of Chicago has extended your status as a Minority Business Enterprise until **January 31, 2014.** We are providing this extension to allow enough time to provide any additional documentation that your application may be missing and for our office to complete our review of all of the submitted documents.

This extension does not guarantee eligibility in the program but will act as a courtesy extension until we receive all of the required documentation and complete a review of that documentation.

Please present this letter as evidence of your certification to be included with bid document submittals as needed.

If you have any questions, please feel free to call our office at 312-744-4900.

Sincerely,

George Coleman
Deputy Procurement Officer

GC/cm

CRAWFORD AVENUE
DEVON AVENUE TO OAKTON STREET
08-W4337-03-PV

Natural Creations

SCHEDULE OF PRICES

ITEM NO.	QUANTITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
8	4,035.00	EACH	BOWLES PERIWINKLE (VINCA MINOR BOWLES), 4 IN PLUG	$ 3.00	$ 12,105.00
9	100.00	EACH	BULBS, GLOBEMASTER ALLIUM (ALLIUM GLOBEMASTER)	$ 10.00	$ 1,000.00
10	7,400.00	EACH	BULBS, SPRING BEAUTY SCILLA (SCILLA SIBERICA SPRING BEAUTY)	$ 1.25	$ 9,250.00
11	2,100.00	EACH	BULBS, TETE A TETE DAFFODIL (NARCISSUS DAFFODIL TETE A TETE)	$ 1.25	$ 2,625.00
12	490.00	EACH	FORBS, BLUE HILL SALVIA (SALVIA X SYLVESTRIS BLUE HILL), 1 GALLON	$ 10.00	$ 4,900.00
13	230.00	EACH	FORBS, HAPPY RETURNS DAYLILY (HEMEROCALLIS HAPPY RETURNS),	$ 10.00	$ 2,300.00
14	948.00	EACH	FORBS, MAX FREI GERANEUM (GERANEUM MAX FREI), 1 GAL	$ 10.00	$ 9,480.00
15	280.00	EACH	FORBS, MOONSHINE YARROW (ARCHILLEA X MOONSHINE), 1	$ 10.00	$ 2,800.00
16	230.00	EACH	FORBS, PARDON ME DAYLILY (HEMEROCALLIS PARDON ME), 1	$ 10.00	$ 2,300.00
17	132.00	EACH	FORBS, PURPLE DOME ASTER (ASTER PURPLE DOME), 1 GALLON	$ 10.00	$ 1,320.00
18	230.00	EACH	FORBS, ROSY RETURNS DAYLILY (HEMEROCALLIS ROSY RETURNS), 1	$ 10.00	$ 2,300.00
19	32.00	EACH	FORBS, RUSSIAN SAGE (PEROVSKIA ATRIPLICIFOLIA), 1 GALLON	$ 10.00	$ 320.00
20	264.00	EACH	FORBS, VIETTES LITTLE SUZY BLACK EYED SUSAN (RUDBECKIA	$ 10.00	$ 2,640.00
21	155.00	EACH	FORBS, WALKERS LOW CATMINT (NEPETA X FAASSENNII WALKERS	$ 10.00	$ 1,550.00
22	132.00	EACH	GRASSES, HAMELN FOUNTAINGRASS (PENNISETUM	$ 10.00	$ 1,320.00
23	32.00	EACH	GRASSES, KARL FOERSTER GRASS (CALAMAGROSTIS X ACUTIFLORA	$ 10.00	$ 320.00
24	146.00	EACH	GRASSES, PRAIRIE DROPSEED GRASS (SPOROBOLUS	$ 10.00	$ 1,460.00
25	4,385.00	EACH	GROUND COVER, GREEN CARPET JAPANESE SPURGE (PACHYSANDRA	$ 2.75	$ 12,058.75
26	920.00	EACH	GROUND COVER, LILY TURF (LIRIOPE SPICATA), 1 GALLON	$ 10.00	$ 9,200.00
27	1,565.00	EACH	GROUND COVER, THORNDALE ENGLISH IVY (HEDERA HELIX	$ 2.75	$ 4,303.75
28	266.00	CU.YD	HARDWOOD MULCH (SHREDDED AND SCREENED BROWN	$ 50.00	$ 13,300.00
32	560.00	POUND	NITROGEN FERTILIZER NUTRIENT	$ 1.75	$ 980.00
33	560.00	POUND	PHOSPHORUS FERTILIZER NUTRIENT	$ 1.75	$ 980.00

SCHEDULE OF PRICES

ITEM NO.	QUANTITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
34	560.00	POUND	POTASSIUM FERTILIZER NUTRIENT	$ 1.75	$ 980.00
35	24.00	EACH	SHRUBS, THE KNOCKOUT ROSE (ROSA KNOCKOUT) ,5-GALLON	$ 50.00	$ 1,200.00
36	14,800.00	SQ.YD.	SODDING, SALT TOLERANT	$ 5.00	$ 74,000.00
37	3,100.00	UNIT	SUPPLEMENTAL WATERING	$ 0.01	$ 31.00
42	98.00	EACH	TREE SLOW RELEASE WATERING BAG	$ 50.00	$ 4,900.00
43	6.00	EACH	TREE, AUTUMN BLAZE MAPLE (ACER X FREMANNII AUTUMN BLAZE), 3 IN	$ 450.00	$ 2,700.00
44	10.00	EACH	TREE, CHANTICLEER PEAR (PYRUS CALLERYANNA CHANTICLEER), 3 IN	$ 450.00	$ 4,500.00
45	20.00	EACH	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 3.5 IN	$ 550.00	$ 11,000.00
46	5.00	EACH	TREE, KENTUCKY COFFETREE (GYMNOCLADUS DIOICUS), 3 IN	$ 500.00	$ 2,500.00
47	14.00	EACH	TREE, PRUNUS VIRGINIANA (CANADIAN CHOKECHERRY), 3 IN	$ 475.00	$ 6,650.00
48	6.00	EACH	TREE, PYRUS CALLERYANA CHANTICLEER (CHANTICLEER	$ 500.00	$ 3,000.00
49	20.00	EACH	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 3.5 IN CALIPER,	$ 600.00	$ 12,000.00
50	8.00	EACH	TREE, SHADEMASTER HONEYLOCUST (GLEDITSIA	$ 450.00	$ 3,600.00
51	9.00	EACH	TREE, TRIUMPH ELM (ULMUS X MORTON GLOSSY), 3 IN CALIPER,	$ 450.00	$ 4,050.00
52	7,800.00	SQ.YD.	EROSION CONTROL BLANKET	$ 1.25	$ 9,750.00
4	30.00	SQ.YD.	aver Driveway Removal and Replaceme	135	$ 4,050.00
38	2,402.00	CU.YD.	TOPSOIL FURNISH AND PLACE	$ 23.50	$ 56,447.00
39	14,800.00	SQ.YD.	TOPSOIL FURNISH AND PLACE, 4 IN	$ 4.50	$ 66,600.00
54	835.00	FOOT	PERIMETER EROSION BARRIER	$ 2.80	$ 2,338.00
					$ 369,108.50

Natural Creations

888

LETTER OF INTENT (SECTION 2)

M/WBE Firm: Areatha Construction Co, Inc Contract #: 1388 13051

Address: 410 E. North Avenue, ~~Streamwood~~ City/State/Zip: Streamwood, IL 60107

Contact Person: Raj Patel Phone: 630-830-9853 Fax: 630-830-9856

Certification Expiration Date: May 1, 2014 Race/Gender: African American / Indian

Email: areathaconstco@sbcglobal.net

Participation: [X] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[X] No [ ] Yes – Please attach explanation. Proposed Subcontractor: _____

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Concrete Work

Indicate the Dollar Amount, or Percentage, and the Terms of Payment for the above-described Commodities/ Services:

Partial of Concrete Items
$855,000.00

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

[signature]	David Slonim
Signature (M/WBE)	Signature (Prime Bidder/Proposer)
Raj Patel	DAVID SLONIM
Print Name	Print Name
Areatha Construction Co, Inc	CAPITOL CEMENT COMPANY, INC
Firm Name	Firm Name
Nov. 5, 2013	11/5/13
Date	Date

Subscribed and sworn before me this 5th day of November, 2013

Notary Public: Roberta C. Paskon

OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15

SEAL

701

SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

(Section 6)

To Contractor:

Date: NOVEMBER 6, 2013 ~~OCTOBER 29, 2013~~

Project Number: 08-W4337-03-PV ROUTE W43

Project Name: CRAWFORD AVENUE

1. The undersigned, if awarded a contract with CAPITOL CEMENT COMPANY, INC (Contractor)

_____ for Concrete Construction (Nature of Work),

_____ in the amount of $ 855,000.00 in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on _____ (Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are:

(b) The undersigned is (check one):

___ Sole Proprietorship
___ Partnership
_✓_ Corporation
___ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
Sam Batey	President	410 E. North Ave. Streamwood, IL 60107
Raj Patel,	Vice President	410 E. North Ave. Streamwood, IL 60107

DATE NOV 5 2013

SUBCONTRACTOR

X _____
SIGNATURE

DEPARTMENT OF PROCUREMENT SERVICES

MAY 03 2013

CITY OF CHICAGO

Sam Batey
Areatha Construction Co., Inc.
410 E North Ave.
Streamwood, IL 60107

Annual Certificate Expires: May 1, 2014

Dear Mr. Batey:

We are pleased to inform you that Areatha Construction Co., Inc. has been re-certified as a Minority Business Enterprise (MBE) by the City of Chicago. This MBE certification is valid until May 1, 2018; however your firms' certification must be re-validated annually.

As a condition of continued certification during this five year period, you must file an annual No-Change Affidavit. Your firm's **No Change Affidavit is due by May 1, 2014.** Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration. Therefore, you must file your **No-Change Affidavit by March 1, 2014.**

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within **10 days** of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a Minority Business Enterprise (MBE) if you fail to:

- file your No Change Affidavit within the required time period;
- provide financial or other records requested pursuant to an audit within the required time period; or
- notify the City of any changes affecting your firm's certification within 10 days of such change.

MAY 0 3 2013

Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than $5,000.00 and not more than $10,000, or both.

Your firm's name will be listed in the City's Directory of Minority and Women-Owned Business Enterprises in the specialty area(s) of:

NAICS Code – 237310 - Abutment construction
NAICS Code – 237310 - Airport runway construction
NAICS Code – 237310 - Bridge approach construction
NAICS Code – 237310 - Bridge construction
NAICS Code – 237310 - Bridge decking construction
NAICS Code – 237310 - Causeway construction
NAICS Code – 237310 - Concrete paving (i.e., highway, road, street, public sidewalk)
NAICS Code – 237310 - Culverts, highway, road and street, construction
NAICS Code – 237310 - Curbs and street gutters, highway, road and street, construction
NAICS Code – 237310 - Repair, highway, road, street, bridge or airport runway
NAICS Code – 237310 - Road construction
NAICS Code – 237310 - Sidewalk, public, construction
NAICS Code – 237310 - Street construction
NAICS Code – 238110 - Concrete finishing
NAICS Code – 238110 - Concrete pouring
NAICS Code – 238110 - Concrete pumping (i.e., placement)
NAICS Code – 238110 - Concrete repair
NAICS Code – 238110 - Concrete resurfacing
NAICS Code – 238110 - Footing and foundation concrete contractors
NAICS Code – 238110 - Retaining wall (except anchored earth), poured concrete, construction

Your firm's participation on City contracts will be credited only toward Minority owned Business Enterprise (MBE) goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward goals will be given only for work done in the specialty category.

Thank you for your continued interest in the City's Minority and Women-Owned Business Enterprise (MBE/WBE) Program.

Sincerely,

Jamie L. Rhee
Chief Procurement Officer

JLR/vlw

LETTER OF INTENT (SECTION 2)

MWBE Firm: Marking Specialists Corporation
Contract #: 13-88-13051
Address: 214 Crystal St - Ste C
City/State/Zip: Cary, IL 60013
Contact Person: Judith M. Pesek
Phone: 847-462-0779 Fax: 847-462-0929
Certification Expiration Date: Dec. 14, 2013
Race/Gender: Hispanic
Email: judy@markingspecialists.net

Participation: [ ] Direct [ ] Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

[X] No [ ] Yes - Please attach explanation. Proposed Subcontractor: _____

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Pavement Marking

Indicate the Dollar Amount, or Percentage, and the Terms of Payment for the above-described Commodities/ Services:

See attached quote # Q20677

$ 69,113.80

(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

Signature (MWBE)
Robert W. Bucher
Print Name
Marking Specialists Corporation
Firm Name
11/4/13
Date

Signature (Prime Bidder/Proposer)
David Slonim
Print Name
DAVID SLONIM
Print Name
Capital Cement Co. Inc
Firm Name
11/5/13
Date

Subscribed and sworn before me this 4th day of November 20 13
Notary Public Judith M Pesek

SEAL

JUDITH M PESEK
MY COMMISSION EXPIRES
MAY 19, 2014

SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

(Section 6) Contract 13-88-1BC51

To Contractor:

Date: 11/6/13
Project Number: 08-W4337-03-PV
Project Name: Crawford Ave. - Devon Ave, to Oakton St.

1. The undersigned, if awarded a contract with Capitol Cement Co Inc (Contractor)

_____ for Pavement Marking (Nature of Work)

_____ in the amount of $69,113.80 in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on 4/15/14 (Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are: Marking Specialists Corporation 314 Crystal St. - Suite C Cary, IL 60013

(b) The undersigned is (check one):
___ Sole Proprietorship
___ Partnership
X Corporation
___ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
Alfredo Zavala	President	1430 Royal Court Elgin, IL 60123
Maria Zavala	Director	Same as above
Robert K. Brewer	V.P.	1622 S. Princeton Ave. Hts., IL 60005
Dorothy J. Brewer	Sec./Treas.	Same as above
Robert W. Brewer	Exec. V.P.	5306 Iowa Cary Cary, IL 60013

DATE 11/4/13

SUBCONTRACTOR
Andrew M Pench
SIGNATURE

THE BOARD OF COMMISSIONERS
TONI PRECKWINKLE, PRESIDENT

Gorden Quillen	1st Dist.	Bridget Gainer	10th Dist.
Robert Steele	2nd Dist.	John P. Daley	11th Dist.
Jerry Butler	3rd Dist.	John A. Fritchey	12th Dist.
William M. Beavers	4th Dist.	Lawrence Suffredin	13th Dist.
Deborah Sims	5th Dist.	Gregg Goslin	14th Dist.
Jesús G. García	6th Dist.	Timothy O. Schneider	15th Dist.
Edwin Reyes	7th Dist.	Jeffrey R. Tobolski	16th Dist.
Peter N. Silvestri	8th Dist.	Elizabeth Ann Doody Horton	17th Dist.
	9th Dist.		

COUNTY OF COOK
BUREAU OF FINANCE
OFFICE OF CONTRACT COMPLIANCE
SHANNON E. ANDREWS
DIRECTOR

County Building
118 North Clark Street, Room 1020
Chicago, Illinois 60602-1304
TEL: (312) 603-5502

December 14, 2012

Mr. Alfredo Zavala, President
Marking Specialists Corporation
P.O. Box 745
Arlington Heights, IL 60006

Annual Certification Expires: December 14, 2013

Dear Mr. Zavala:

Congratulations on your continued eligibility for Certification as an MBE by Cook County Government. This annual MBE Certification is valid until December 14, 2013.

As a condition of continued Certification during the three (3) year term, you must file a "No Change Affidavit" within sixty (60) business days prior to the date of annual expiration. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance of any change in ownership or control or any other matters or facts affecting your firm's eligibility for Certification.

Cook County Government may commence action to remove your firm as an MBE vendor if you fail to notify us of any changes of facts affecting your firm's Certification, or if your firm otherwise fails to cooperate with the County in any inquiry or investigation. Removal of your status may also be commenced if your firm is found to be involved in bidding or contractual irregularities.

Your firm's name will be listed in Cook County's Directory of Minority Business Enterprises, Women and Veteran Business Enterprises in the area(s) of specialty:

Construction: Paving Services

Your firm's participation on Cook County contracts will be credited toward MBE goals in your area(s) of specialty. While your participation on Cook County contracts is not limited to your specialty, credit toward MBE goals will be given only for work performed in the specialty category.

Thank you for your continued interest in Cook County Government's Minority, Women and Veteran Business Enterprise Program.

Sincerely,

Shannon E. Andrews
Contract Compliance Director

SEA/tar

2014

MARKING SPECIALISTS CORP.

Voice: 847-462-0799
Fax: 847-462-0929
Email: judy@markingspecialists.net

Marking Specialists Corporation
214 Crystal Street, Suite C
Cary, IL 60013

Quotation

Quote No.: Q20677
Quote Date: 10/28/2013
Item No.:
Contract No.: 13-88-13051
Bid Date: 11/06/2013
Complete By: 11/21/2014

County: COOK (E)
Section: 08-W4337-03-PV
Description: CRAWFORD AVENUE - DEVON AVENUE TO OAKTON STREET (VILLAGE OF LINCOLNWOOD)
CCHD # 13-88-13051 (MBE 24% / WBE 10%)

Gentlemen:

We propose to furnish all necessary labor, material, tools and equipment to complete the following work according to plans and specifications:

Item No.	Description	UM	Quantity	Price/Unit	Total
197	ERAD OF EXIST PVMT MRKG	SF	3,400.00	1.75	$5,950.00
198	MOD URETH PM LTR-SYM	SF	705.00	4.00	$2,820.00
199	MOD URETH PM LINE 12	FT	4,820.00	3.50	$16,870.00
200	MOD URETH PM LINE 24	FT	885.00	7.00	$6,195.00
201	MOD URETH PM LINE 4	FT	24,885.00	1.08	$26,875.80
202	MOD URETH PM LINE 6	FT	3,340.00	1.75	$5,845.00
204	THPL PVT MK LTR & SYM	SF	40.00	7.00	$280.00
205	THPL PVT MK LINE 12	FT	150.00	6.30	$945.00
206	THPL PVT MK LINE 24	FT	35.00	12.60	$441.00
207	THPL PVT MK LINE 4	FT	1,320.00	2.00	$2,640.00
208	THPL PVT MK LINE 6	FT	80.00	3.15	$252.00
				BidTotal:	**$69,113.80**

This project has a DBE requirement of 24 %

MARKING SPECIALISTS CORP.

Marking Specialists Corporation
214 Crystal Street, Suite C
Cary, IL 60013

Voice: 847-462-0799
Fax: 847-462-0929
Email: judy@markingspecialists.net

Quotation

Quote No.:	Q20677
Quote Date:	10/28/2013
Item No.:	
Contract No.:	13-88-13051
Bid Date:	11/06/2013
Complete By:	11/21/2014

These prices are firm for a period of sixty (60) days from the date of the contract award. Other materials, if required, will be priced separately. Permanent pavement marking is expected to be completed with one mobilization. Additional mobilizations will cost $2,000.00 each. Lane closures, if required, are the responsibility of the prime contractor. Unless stated otherwise, prices do not include costs for bonds, special insurance or permits.

We thank you for the opportunity to quote on this work and hope we will be favored with your order.

Very Truly Yours,

Judith M Peszek

Judith M. Peszek, Chief Estimator
Marking Specialists Corporation

I.D.O.T. Certified DBE | C.D.O.T. Certified DBE & MBE | Cook County Certified MBE

METRA Certified DBE | City of Rockford MBE

An Equal Opportunity Employer

Additional Notes:

LETTER OF INTENT (SECTION 2)

M/WBE Firm: Metromex Contractors Inc
Contract #: 1388-13501
Address: 9550 Sergo Drive Suite 100
City/State/ Zip: McCook, IL 60525
Contact Person: Dusiyant A Patel
Phone: 708-485-3000 Fax: 708-485-3011
Certification Expiration Date: 10-15-2017
Race/Gender: Asian / Male
Email: Dpatel@Metromex1.com

Participation: [x] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[x] No [ ] Yes – Please attach explanation. Proposed Subcontractor:

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

ASPHALT ITEMS

Indicate the Dollar Amount, or Percentage, and the Terms of Payment for the above-described Commodities/ Services:

94,166.40

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

Signature (M/WBE)

Dusiyant A Patel
Print Name

Metromex Contractors Inc.
Firm Name

November 05,2013
Date

Signature (Prime Bidder/Proposer)

DAVID SLONIM
Print Name

Capital Cement Co Inc
Firm Name

11/5/13
Date

Subscribed and sworn before me this 5th day of NOVEMBER 2013

Notary Public Roberta C Paskon

OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15
SEAL

SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

(Section 6)

To Contractor:

Date: November 5, 2013
Project Number: 13-88-13051
Project Name Crawford Devon to Oakton St.

1. The undersigned, if awarded a contract with Capitol Cement Company Inc. (Contractor)

_____ for Asphalt Paving (Nature of Work)

_____ in the amount of $ 94,166.40 in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on _____ (Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are:

(b) The undersigned is (check one):
___ Sole Proprietorship
___ Partnership
_X_ Corporation
___ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
Federico Rojas	President	9550 Sergo Dr. Suite 100 McCook, IL 60525

DATE November 5, 2013

SUBCONTRACTOR
X _____
SIGNATURE

Vendor Information

CLOSE WINDOW

HELP

Vendor Information

Business Name	**Metromex Contractors, Inc.**
Owner	**Federico Rojas**
Address > Map This Address	**9550 Sergo Dr.** **Suite 100** **McCook, IL 60525**
Phone	**708-485-3000**
Fax	**708-485-3011**
Email	**metromex1@aol.com**

Certification Information

Certifying Agency	**City of Chicago**
Certification Type	**MBE - Minority Business Enterprise**
Certification Date	**12/27/2012**
Renewal/Anniversary Date	**11/15/2013**
Expiration Date	**10/15/2017**
Certified Business Description	**NAICS 237310 Asphalt paving (i.e., highway, road, street, public sidewalk)** **NAICS 238990 Special Trade Contractors**

Commodity Codes

NAICS 237310	Asphalt paving (i.e., highway, road, street, public sidewalk) (More)
NAICS 238990	Special Trade Contractors (More)

Customer Support

Print This Page

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DEC 27 2012

DEPARTMENT OF PROCUREMENT SERVICES

CITY OF CHICAGO

Federico Rojas
Metromex Contractors, Inc.
9550 Sergo Drive Suite 100
McCook, Illinois 60525

Annual Certificate Expires: October 15, 2013

Dear Mr. Rojas:

We are pleased to inform you that Metromex Contractors, Inc. has been certified as a Minority Business Enterprise (MBE) by the City of Chicago. This MBE certification is valid until October 15, 2017; however your firms' certification must be re-validated annually.

As a condition of continued certification during this five year period, you must file an annual No-Change Affidavit. Your firm's **No Change Affidavit is due by October 15, 2013.** Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration. Therefore, you must file your **No-Change Affidavit by August 15, 2013.**

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within **10 days** of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a (MBE) if you fail to:

- file your No Change Affidavit within the required time period;
- provide financial or other records requested pursuant to an audit within the required time period; or
- notify the City of any changes affecting your firm's certification within 10 days of such change.

DEC 2 7 2012

Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than $5,000.00 and not more than $10,000, or both.

Your firm's name will be listed in the City's Directory of Minority and Women Owned Business Enterprises in the specialty area(s) of:

NAICS Code – 237310 - Asphalt paving (i.e., highway, road, street, public sidewalk)
NAICS Code – 238990 - Special Trade Contractors

Your firm's participation on City contracts will be credited only toward Minority Business Enterprise (MBE) goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward goals will be given only for work done in the specialty category.

Thank you for your interest in the City's Minority and Women-Owned Business Enterprise (MBE) Program.

Sincerely,

Jamie L. Rhee
Chief Procurement Officer

JLR/vlw

CERTIFICATION RECEIPT

TIME STAMP

City of Chicago
Department of Procurement Services

CITY OF CHICAGO
DEPARTMENT OF PROCUREMENT SERVICES
2013 SEP 19 PM 1:04

Application/Information Submitted By: Construction

Company Name: METROMEX

Contact Person: FEDERICO ROJAS

Address: 9550 SERGO DR. SUITE 100 MCCOOK IL 60525

Phone Number: 708.485.3000 Email: FROJAS@METROMEXL.COM

Check the appropriate boxes listed below:

☒ Application ☐ Documents in response to a RFI ☐ Payment ☐ Certified Check ☐ Money Order ☐ Other _____

Received by: _____

WHITE: Vendor Copy YELLOW: Procurement Dept. Copy

LETTER OF INTENT (SECTION 2)

M/WBE Firm: Interra, Inc. Contract #: 1388-13051

Address: 600 Territorial Dr. Ste. G. City/State/ Zip: Bolingbrook, IL 60440

Contact Person: Sanjeev Bandi Phone: Fax:

Certification Expiration Date: 12/1/2013 Race/Gender:

Email: sbandi@InterraServices.com

Participation: [ ] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[X] No [ ] Yes – Please attach explanation. Proposed Subcontractor:

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Testing + Inspection

Indicate the Dollar Amount, or Percentage, and the Terms of Payment for the above-described Commodities/ Services:

$4,000.00

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

Signature (*M/WBE*) Signature (*Prime Bidder/Proposer*)

Sanjeev Bandi DAVID SLONIM

Print Name Print Name

Interra, Inc. CAPITOL CEMENT COMPANY, INC

Firm Name Firm Name

11/4/2013 11/5/2013

Date Date

Subscribed and sworn before me this 4th day of November 2013.

Notary Public

OFFICIAL SEAL
MARYANN ULLSMITH
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 11-9-2016

SEAL

701

SUBCONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

(Section 6)

To Contractor:

Date: NOVEMBER 6, 2013 ~~OCTOBER 29, 2013~~

Project Number: 08-W4337-03-PV ROUTE W43

Project Name CRAWFORD AVENUE

1. The undersigned, if awarded a contract with CAPITOL CEMENT COMPANY, INC (Contractor)

for Testing & Inspection (Nature of Work)

in the amount of $ 84,000.00 in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on _____ (Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are:

(b) The undersigned is (check one):
- ___ Sole Proprietorship
- ___ Partnership
- X Corporation
- ___ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
Sanjeev Bandi	President	600 Territorial Dr, Ste 6, Bolingbrook, IL 60440
Sudhakar Rao Dappahpudi	Senior Vice President	
Anshu Balekai	Vice president	

DATE 11/4/2013

SUBCONTRACTOR

X _____

SIGNATURE

LETTER OF INTENT (SECTION 2)

M/WBE Firm: _____ Contract #: 1388-13051

Address: _____ City/State/ Zip: _____

Contact Person: _____ Phone: _____ Fax: _____

Certification Expiration Date: _____ Race/Gender: _____

Email: _____

Participation: [ ] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[ ] No [ ] Yes – Please attach explanation. Proposed Subcontractor: _____

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

_____

_____

_____

_____

_____

Indicate the **Dollar Amount**, or **Percentage**, and the **Terms of Payment** for the above-described Commodities/ Services:

_____

_____

_____

_____

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become a binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/ Supply and Fee/Cost were completed.

_____	_____
Signature (*M/WBE*)	Signature (*Prime Bidder/Proposer*)
_____	DAVID SLONIM
Print Name	Print Name
_____	CAPITOL CEMENT COMPANY, INC
Firm Name	Firm Name
_____	OCTOBER 29, 2013
Date	Date

Subscribed and sworn before me this _____ day of _____, 20____.

Notary Public _____.

SEAL

PETITION FOR WAIVER OF MBE/WBE PARTICIPATION (SECTION 3)

A. BIDDER/PROPOSER HEREBY REQUESTS:

☐ FULL MBE WAIVER ☐ FULL WBE WAIVER

☐ REDUCTION (PARTIAL MBE and/or WBE PARTICIPATION)

_____ % of Reduction for MBE Participation
_____ % of Reduction for WBE Participation

B. REASON FOR FULL/REDUCTION WAIVER REQUEST

Bidder/Proposer shall check each item applicable to its reason for a waiver request. Additionally, supporting documentation shall be submitted with this request. If such supporting documentation cannot be submitted with bid/proposal/quotation, such documentation shall be submitted directly to the Office of Contract Compliance no later than three (3) days from the date of submission date.

☐ (1) Lack of sufficient qualified MBEs and/or WBEs capable of providing the goods or services required by the contract. **(Please explain)**

☐ (2) The specifications and necessary requirements for performing the contract make it impossible or economically infeasible to divide the contract to enable the contractor to utilize MBEs and/or WBEs in accordance with the applicable participation. **(Please explain)**

☐ (3) Price(s) quoted by potential MBEs and/or WBEs are above competitive levels and increase cost of doing business and would make acceptance of such MBE and/or WBE bid economically impracticable, taking into consideration the percentage of total contract price represented by such MBE and/or WBE bid. **(Please explain)**

☐ (4) There are other relevant factors making it impossible or economically infeasible to utilize MBE and/or WBE firms. **(Please explain)**

C. GOOD FAITH EFFORTS TO OBTAIN MBE/WBE PARTICIPATION

☐ (1) Made timely written solicitation to identified MBEs and WBEs for utilization of goods and/or services; and provided MBEs and WBEs with a timely opportunity to review and obtain relevant specifications, terms and conditions of the proposal to enable MBEs and WBEs to prepare an informed response to solicitation. **(Please attach)**

☐ (2) Followed up initial solicitation of MBEs and WBEs to determine if firms are interested in doing business. **(Please attach)**

☐ (3) Advertised in a timely manner in one or more daily newspapers and/or trade publication for MBEs and WBEs for supply of goods and services. **(Please attach)**

☐ (4) Used the services and assistance of the Office of Contract Compliance staff. **(Please explain)**

☐ (5) Engaged MBEs & WBEs for indirect participation. **(Please explain)**

D. OTHER RELEVANT INFORMATION

Attach any other documentation relative to Good Faith Efforts in complying with MBE/WBE participation.

CONTRACTOR CERTIFICATIONS
(SECTION 4)

The following certifications are made pursuant to state law and the code. The undersigned is cautioned to carefully read these certifications prior to signing the signature page. Signing the signature page shall constitute a warranty by the undersigned that all the statements, certifications and information set forth within these certifications are true, complete and correct as of the date the signature page is signed. The undersigned is notified that if the county learns that any of the following certifications were falsely made, that any contract entered into with the undersigned shall be subject to termination.

A. PERSONS AND ENTITIES SUBJECT TO DISQUALIFICATION

No person or business entity shall be awarded a contract or sub-contract, for a period of five (5) years from the date of conviction or entry of a plea or admission of guilt, civil or criminal, if that person or business entity:

1) Has been convicted of an act committed, within the State of Illinois, of bribery or attempting to bribe an officer or employee of a unit of state, federal or local government or school district in the State of Illinois in that officer's or employee's official capacity;

2) Has been convicted by federal, state or local government of an act of bid-rigging or attempting to rig bids as defined in the Sherman Anti-Trust Act and Clayton Act. Act. 15 U.S.C. Section 1 *et seq.;*

3) Has been convicted of bid-rigging or attempting to rig bids under the laws of federal, state or local government;

4) Has been convicted of an act committed, within the State, of price-fixing or attempting to fix prices as defined by the Sherman Anti-Trust Act and the Clayton Act. 15 U.S.C. Section 1, *et seq.;*

5) Has been convicted of price-fixing or attempting to fix prices under the laws the State;

6) Has been convicted of defrauding or attempting to defraud any unit of state or local government or school district within the State of Illinois;

7) Has made an admission of guilt of such conduct as set forth in subsections (1) through (6) above which admission is a matter of record, whether or not such person or business entity was subject to prosecution for the offense or offenses admitted to; or

8) Has entered a plea of *nolo contendere* to charge of bribery, price-fixing, bid-rigging, or fraud, as set forth in sub-paragraphs (1) through (6) above.

In the case of bribery or attempting to bribe, a business entity may not be awarded a contract if an official, agent or employee of such business entity committed the Prohibited Act on behalf of the business entity and pursuant to the direction or authorization of an officer, director or other responsible official of the business entity, and such Prohibited Act occurred within three years prior to the award of the contract. In addition, a business entity shall be disqualified if an owner, partner or shareholder controlling, directly or indirectly, 20 % or more of the business entity or an officer of the business entity has performed any Prohibited Act within five years prior to the award of the Contract.

THE UNDERSIGNED HEREBY CERTIFIES THAT: The Undersigned has read the provisions of Section A, Persons and Entities Subject to Disqualification, that the Undersigned has not committed any Prohibited Act set forth in Section A, and that award of the Contract to the Undersigned would not violate the provisions of such Section or of the Code.

B. BID-RIGGING OR BID ROTATING

THE UNDERSIGNED HEREBY CERTIFIES THAT: *In accordance with 720 ILCS 5/33 E-11, neither the Undersigned nor any Affiliated Entity is barred from award of this Contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid rotating.*

C. **DRUG FREE WORKPLACE ACT**

THE UNDERSIGNED HEREBY CERTIFIES THAT: The Undersigned will provide a drug free workplace, as required by Public Act 86-1459 (30 ILCS 580/2-11).

D. **DELINQUENCY IN PAYMENT OF TAXES**

THE UNDERSIGNED HEREBY CERTIFIES THAT: *The Undersigned is not an owner or a party responsible for the payment of any tax or fee administered by Cook County, by a local municipality, or by the Illinois Department of Revenue, which such tax or fee is delinquent, such as bar award of a contract or subcontract pursuant to the Code, Chapter 34, Section 34-129.*

E. **HUMAN RIGHTS ORDINANCE**

No person who is a party to a contract with Cook County ("County") shall engage in unlawful discrimination or sexual harassment against any individual in the terms or conditions of employment, credit, public accommodations, housing, or provision of County facilities, services or programs (Code Chapter 42, Section 42-30 *et seq*).

F. **ILLINOIS HUMAN RIGHTS ACT**

THE UNDERSIGNED HEREBY CERTIFIES THAT: *It is in compliance with the the Illinois Human Rights Act (775 ILCS 5/2-105), and agrees to abide by the requirements of the Act as part of its contractual obligations.*

G. **MACBRIDE PRINCIPLES, CODE CHAPTER 34, SECTION 34-132**

If the primary contractor currently conducts business operations in Northern Ireland, or will conduct business during the projected duration of a County contract, the primary contractor shall make all reasonable and good faith efforts to conduct any such business operations in Northern Ireland in accordance with the MacBride Principles for Northern Ireland as defined in Illinois Public Act 85-1390.

H. **LIVING WAGE ORDINANCE PREFERENCE (COOK COUNTY CODE, CHAPTER 34, SECTION 34-127;**

The Code requires that a living wage must be paid to individuals employed by a Contractor which has a County Contract and by all subcontractors of such Contractor under a County Contract, throughout the duration of such County Contract. The amount of such living wage is determined from time to time by, and is available from, the Chief Financial Officer of the County.

For purposes of this EDS Section 4, H, "Contract" means any written agreement whereby the County is committed to or does expend funds in connection with the agreement or subcontract thereof. The term "Contract" as used in this EDS, Section 4, I, specifically excludes contracts with the following:

1) Not-For Profit Organizations (defined as a corporation having tax exempt status under Section 501(C)(3) of the United State Internal Revenue Code and recognized under the Illinois State not-for - profit law);

2) Community Development Block Grants;

3) President's Office of Employment Training;

4) Sheriff's Work Alternative Program; and

5) Department of Correction inmates.

REQUIRED DISCLOSURES
(SECTION 5)

1. DISCLOSURE OF LOBBYIST CONTACTS

List all persons or entities that have made lobbying contacts on your behalf with respect to this contract:

Name	Address
	NONE

2. LOCAL BUSINESS PREFERENCE DISCLOSURE; CODE, CHAPTER 34, SECTION 34-151(p);

"Local Business" shall mean a person authorized to transact business in this State and having a bona fide establishment for transacting business located within Cook County at which it was actually transacting business on the date when any competitive solicitation for a public contract is first advertised or announced and further which employs the majority of its regular, full time work force within Cook County, including a foreign corporation duly authorized to transact business in this State and which has a bona fide establishment for transacting business located within Cook County at which it was actually transacting business on the date when any competitive solicitation for a public contract is first advertised or announced and further which employs the majority of its regular, full time work force within Cook County.

a) Is Bidder a "Local Business" as defined above?

Yes: X No: _____

b) If yes, list business addresses (es) within Cook County:

CAPITOL CEMENT COMPANY, INC
6231 N. PULASKI ROAD
CHICAGO, IL 60646

c) Does Bidder employ the majority of its regular full-time workforce within Cook County?

Yes: X No: _____

3. THE CHILD SUPPORT ENFORCEMENT ORDINANCE (PREFERENCE (CODE, CHAPTER 34, SECTION 34-366)

Every Applicant for a County Privilege shall be in full compliance with any child support order before such Applicant is entitled to receive or renew a County Privilege. When delinquent child support exists, the County shall not issue or renew any County Privilege, and may revoke any County Privilege. All Applicants are required to review the Cook County Affidavit of Child Support Obligations attached to this EDS **and** complete the following, based upon the definitions and other information included in such Affidavit:

_____ Applicant has no "Substantial Owner."

OR

X The Cook County Affidavit of Child Support Obligations has been completed by all "Substantial Owners" and is attached to this EDS.

4. **REAL ESTATE OWNERSHIP DISCLOSURES.**

The Undersigned must indicate by checking the appropriate provision below and providing all required information that either:

a) X The following is a complete list of all real estate owned by the Undersigned in Cook County:

PERMANENT INDEX NUMBER(S): 13-03-216-028-0000 | 13-03-216-025-0000
13-03-216-027-0000 | 13-03-216-033-0000
13-03-216-026-0000 |

(ATTACH SHEET IF NECESSARY TO LIST ADDITIONAL INDEX NUMBERS)

OR:

b)_____The Undersigned owns no real estate in Cook County.

5. **EXCEPTIONS TO CERTIFICATIONS OR DISCLOSURES.**

If the Undersigned is unable to certify to any of the Certifications or any other statements contained in this EDS and not explained elsewhere in this EDS, the Undersigned must explain below:

_____

_____

If the letters, "NA", the word "None" or "No Response" appears above, or if the space is left blank, it will be conclusively presumed that the Undersigned certified to all Certifications and other statements contained in this EDS.

COOK COUNTY DISCLOSURE OF OWNERSHIP INTEREST STATEMENT
(Section 5)

The Cook County Code of Ordinances (§2-610 *et seq.*) requires that any Applicant for any County Action must disclose information concerning ownership interests in the Applicant. This Disclosure of Ownership Interest Statement must be completed with all information current as of the date this Statement is signed. Furthermore, this Statement must be kept current, by filing an amended Statement, until such time as the County Board or County Agency shall take action on the application. The information contained in this Statement will be maintained in a database and made available for public viewing.

If you are asked to list names, but there are no applicable names to list, you must state NONE. An incomplete Statement will be returned and any action regarding this contract will be delayed. A failure to fully comply with the ordinance may result in the action taken by the County Board or County Agency being voided.

"Applicant" means any Entity or person making an application to the County for any County Action.

"County Action" means any action by a County Agency, a County Department, or the County Board regarding an ordinance or ordinance amendment, a County Board approval, or other County agency approval, with respect to contracts, leases, or sale or purchase of real estate.

"Entity" or *"Legal Entity"* means a sole proprietorship, corporation, partnership, association, business trust, estate, two or more persons having a joint or common interest, trustee of a land trust, other commercial or legal entity or any beneficiary or beneficiaries thereof.

This Disclosure of Ownership Interest Statement must be submitted by :

1. An Applicant for County Action and
2. An individual or Legal Entity that holds stock or a beneficial interest in the Applicant and is listed on the Applicant's Statement (a "Holder") must file a Statement and complete #1 only under **Ownership Interest Declaration**.

Please print or type responses clearly and legibly. Add additional pages if needed, being careful to identify each portion of the form to which each additional page refers.

This Statement is being made by the [X] Applicant or [ ] Stock/Beneficial Interest Holder

This Statement is an: [ ] Original Statement or [ ] Amended Statement

Identifying Information:

Name DAVID SLONIM D/B/A: CAPITOL CEMENT CO., INC EIN NO.: 36-086-9820

Street Address: 6231 N. PULASKI ROAD

City: CHICAGO State: IL Zip Code: 60646

Phone No.: 773-478-2200

Form of Legal Entity:

[ ] Sole Proprietor [ ] Partnership [X] Corporation [ ] Trustee of Land Trust

[ ] Business Trust [ ] Estate [ ] Association [ ] Joint Venture

[ ] Other (describe) _____

COOK COUNTY DISCLOSURE OF OWNERSHIP INTEREST STATEMENT
(Section 5)

The Cook County Code of Ordinances (§2-610 *et seq.*) requires that any Applicant for any County Action must disclose information concerning ownership interests in the Applicant. This Disclosure of Ownership Interest Statement must be completed with all information current as of the date this Statement is signed. Furthermore, this Statement must be kept current, by filing an amended Statement, until such time as the County Board or County Agency shall take action on the application. The information contained in this Statement will be maintained in a database and made available for public viewing.

If you are asked to list names, but there are no applicable names to list, you must state NONE. An incomplete Statement will be returned and any action regarding this contract will be delayed. A failure to fully comply with the ordinance may result in the action taken by the County Board or County Agency being voided.

"*Applicant*" means any Entity or person making an application to the County for any County Action.

"County Action" means any action by a County Agency, a County Department, or the County Board regarding an ordinance or ordinance amendment, a County Board approval, or other County agency approval, with respect to contracts, leases, or sale or purchase of real estate.

"Entity" or *"Legal Entity"* means a sole proprietorship, corporation, partnership, association, business trust, estate, two or more persons having a joint or common interest, trustee of a land trust, other commercial or legal entity or any beneficiary or beneficiaries thereof.

This Disclosure of Ownership Interest Statement must be submitted by :

1. An Applicant for County Action and
2. An individual or Legal Entity that holds stock or a beneficial interest in the Applicant and is listed on the Applicant's Statement (a "Holder") must file a Statement and complete #1 only under **Ownership Interest Declaration**.

Please print or type responses clearly and legibly. Add additional pages if needed, being careful to identify each portion of the form to which each additional page refers.

This Statement is being made by the [X] Applicant or [ ] Stock/Beneficial Interest Holder

This Statement is an: [ ] Original Statement or [ ] Amended Statement

Identifying Information:

Name MIKE FARSHCHI D/B/A: CAPITOL CEMENT CO., INC EIN NO.: 36-086-9820

Street Address: 6231 N. PULASKI ROAD

City: CHICAGO State: IL Zip Code: 60646

Phone No.: 773-478-2200

Form of Legal Entity:

[ ] Sole Proprietor [ ] Partnership [X] Corporation [ ] Trustee of Land Trust

[ ] Business Trust [ ] Estate [ ] Association [ ] Joint Venture

[ ] Other (describe) _____

Ownership Interest Declaration:

1. List the name(s), address, and percent ownership of each individual and each Entity having a legal or beneficial interest (including ownership) of more than five percent (5%) in the Applicant/Holder.

Name	Address	Percentage Interest in Applicant/Holder
MIKE FARSHCHI	6231 N. PULASKI RD CHICAGO, IL 60646	75%
DAVID SLONIM	6231 N. PULASKI RD CHICAGO, IL 60646	25%

2. If the interest of any individual or any Entity listed in (1) above is held as an agent or agents, or a nominee or nominees, list the name and address of the principal on whose behalf the interest is held.

Name of Agent/Nominee	Name of Principal	Principal's Address

3. Is the Applicant constructively controlled by another person or Legal Entity? [ ] Yes [ ] No

If yes, state the name, address and percentage of beneficial interest of such person or legal entity, and the relationship under which such control is being or may be exercised.

Name	Address	Percentage of Beneficial Interest	Relationship

Declaration (check the applicable box):

[X] I state under oath that the Applicant has withheld no disclosure as to ownership interest in the Applicant nor reserved any information, data or plan as to the intended use or purpose for which the Applicant seeks County Board or other County Agency action.

[ ] I state under oath that the Holder has withheld no disclosure as to ownership interest nor reserved any information required to be disclosed.

DAVID SLONIM
Name of Authorized Applicant/Holder Representative (please print or type)

PRESIDENT
Title

David Slonim
Signature

OCTOBER 29, 2013
Date

david@capitolcementco.com
E-mail address

773-478-2200
Phone Number

Subscribed to and sworn before me
this 29th day of OCT, 2013

My commission expires: 2-20-15

X Roberta C Paskon
Notary Public Signature

Notary Seal
OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15

COOK COUNTY BOARD OF ETHICS
69 W. WASHINGTON STREET, SUITE 3040
CHICAGO, ILLINOIS 60602
312/603-4304
312/603-9988 FAX 312/603-1011 TT/TDD

FAMILIAL RELATIONSHIP DISCLOSURE PROVISION:

Section 2-582 of the Cook County Ethics Ordinance requires any person or persons doing business with Cook County to disclose to the Cook County Board of Ethics the existence of familial relationships they may have with all persons holding elective office in the State of Illinois, the County of Cook, or in any municipality within the County of Cook. A person is considered to be "doing business" with Cook County if that person has any one or any combination of leases, contracts, or purchases to or with Cook County or any Cook County agency in excess of $25,000 in any calendar year.

The required disclosure shall be filed by January 1 of each calendar year and again with each bid/proposal/quotation to do business with Cook County. Any person filing a late disclosure shall be assessed a late filing fee of $100.00 per day that the disclosure is late after an initial 30-day grace period. Any person found guilty of violating any provision of this section or knowingly filing a false, misleading, or incomplete disclosure to the Cook County Board of Ethics shall be prohibited, for a period of three (3) years, from engaging, directly or indirectly, in any business with Cook County.

If you have questions concerning this disclosure requirement, please call the Cook County Board of Ethics at (312) 603-4304.

ADDITIONAL DEFINITIONS:

"*Familial relationship*" means a person who is related to an official or employee as spouse or any of the following, whether by blood, marriage or adoption:

- Parent
- Child
- Brother
- Sister
- Aunt
- Uncle
- Niece
- Nephew
- Grandparent
- Grandchild
- Father-in-law
- Mother-in-law
- Son-in-law
- Daughter-in-law
- Brother-in-law
- Sister-in-law
- Stepfather
- Stepmother
- Stepson
- Stepdaughter
- Stepbrother
- Stepsister
- Half-brother
- Half-sister

SWORN FAMILIAL RELATIONSHIP DISCLOSURE FORM

Pursuant to Section 2-582 of the Cook County Ethics Ordinance, any *person* doing business** with Cook County must disclose, to the Cook County Board of Ethics, the existence of *familial relationships** to any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County. Please print your responses.

Name of Owner/Employee: DAVID SLONIM Title: PRESIDENT

Business Entity Name: CAPITOL CEMENT CO., INC Phone: 773-478-2200

Business Entity Address: 6231 N. PULASKI RD, CHICAGO, IL 60646

_____ The following familial relationship exists between the owner or any employee of the business entity contracted to do business with Cook County ***and*** any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County.

	Owner/Employee Name:	Related to:	Relationship:
1.			
2.			
3.			
4.			
5.			

If more space is needed, attach an additional sheet following the above format.

X There is ***no*** familial relationship that exists between the owner or any employee of the business entity contracted to do business with Cook County and any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County.

To the best of my knowledge and belief, the information provided above is true and complete.

David Slonim
Owner/Employee's Signature

OCTOBER 29, 2013
Date

Subscribe and sworn before me this 29th Day of OCTOBER, 2013

a Notary Public in and for COOK County

Roberta C Paskon
(Signature)

NOTARY PUBLIC
SEAL

My Commission expires 2-20-15

Completed forms must be filed with the bid.

OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15

CONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REUIREMENTS

(SECTION 6)

To Contractor:

Date: OCTOBER 29, 2013
Project Number: 08-W4337-03-PV ROUTE W43
Project Name CRAWFORD AVENUE
DEVON AVE TO OAKTON STREET

1. If awarded the contract with the County of Cook for the construction of the above identified project, the undersigned agrees that:

   (a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

   (b) Correction of any infractions of the aforesaid conditions, including infractions by any of his Subcontractors and any lower tier subcontractors, is his responsibility.

2. He certifies that:

   (b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

   (c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

4. **He certifies that:**

   (a) The legal name and the business address of the undersigned are:

   (b) The undersigned is (check one):
   ____ Sole Proprietorship
   ____ Partnership
   X Corporation
   ____ Other Organization (Describe)

   (c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS
DAVID SLONIM	PRESIDENT	6231 N. PULASKI RD CHICAGO, IL 60646
MIKE FARSHCHI	VICE PRES/SECRETARY	6231 N. PULASKI RD CHICAGO, IL 60646
DAN MELNYK	VICE PRESIDENT	6231 N. PULASKI RD CHICAGO, IL 60646

(d) The name and address of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):

NAME	ADDRESS	NATURE OF INTEREST

(e) The names and addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest is (if none, so state):

NAME	ADDRESS	TRADE CLASSIFICATION

DATE OCTOBER 29, 2013

CAPITOL CEMENT CO., INC
CONTRACTOR

X David Sloan
SIGNATURE

SUBCONTRACTOR'S CERTIFICATION CONCERNING
LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS
(Section 6)

To Contractor:

Date: OCTOBER 29, 2013
Project Number: 08-W4337-03-PV ROUTE W43
Project Name CRAWFORD AVENUE

1. The undersigned, if awarded a contract with CAPITOL CEMENT COMPANY, INC
(Contractor)

_____ for _____
Nature of Work)

_____ in the amount of $_____ in the construction of the above-identified project, certifies that:

(a) The Labor Standards provisions of the Contract for Construction are included in the aforesaid contract.

(b) Neither he nor any firm, corporation, partnership or association in which he has a substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29CFR Part 5) or pursuant to the Section 3(a) of the Davis-Bacon Act, as amended [40 U.S.C. 276a-2(a)]

(c) No part of the aforementioned Contract has been or will be subcontracted to any Subcontractor if such Subcontractor or any firm, corporation, partnership or association in which such Subcontractor has a substantial interest is designated as an ineligible Contractor pursuant to any of the aforementioned regulatory or statutory provisions.

2. He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his Subcontractor any lower tier subcontractor, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wages Requirements executed by the Subcontractors.

3. The workmen will report for duty on _____
(Date)

4. He certifies that:

(a) The legal name and the business address of the undersigned are:

(b) The undersigned is (check one):
____ Sole Proprietorship
____ Partnership
____ Corporation
____ Other Organization (Describe)

(c) The name and address of the owner, partners or officers of the undersigned are:

NAME TITLE ADDRESS

_____

_____

_____

SUBCONTRACTOR

DATE_____

X_____
SIGNATURE

SIGNATURE BY A SOLE PROPRIETOR
(SECTION 6)

The Undersigned hereby certifies and warrants: that all of the statements, certifications and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Cook County Chief Procurement Officer in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME:_____

BUSINESS ADDRESS:_____

_____

BUSINESS TELEPHONE:_____ FAX NUMBER:_____

FEIN/SSN:_____

COOK COUNTY BUSINESS REGISTRATION NUMBER:_____

SOLE PROPRIETOR'S SIGNATURE: _____

PRINT NAME: _____

DATE: _____

Subscribed to and sworn before me this

_____ day of _____, 20___.

My commission expires:

X_____ _____

Notary Public Signature Notary Seal

SIGNATURE BY A PARTNERSHIP (AND/OR A JOINT VENTURE)
(SECTION 7)

The Undersigned hereby certifies and warrants: that all of the statements, certifications, and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all of the facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Cook County Chief Procurement Officer in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME:_____

BUSINESS ADDRESS:_____

_____

BUSINESS TELEPHONE:_____ FAX NUMBER:_____

CONTACT PERSON:_____ FEIN/SSN:_____

*COOK COUNTY BUSINESS REGISTRATION NUMBER:_____

SIGNATURE OF PARTNER AUTHORIZED TO EXECUTE CONTRACTS ON BEHALF OF PARTNERSHIP:

*BY: _____

Date:_____

Subscribed to and sworn before me this

_____ day of _____, 20___.

My commission expires:

X_____ _____

Notary Public Signature Notary Seal

* **Attach hereto a partnership resolution or other document authorizing the individual signing this Signature Page to so sign on behalf of the Partnership.**

SIGNATURE BY A CORPORATION
(SECTION 8)

The Undersigned hereby certifies and warrants: that all of the statements, certifications, and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all of the facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Cook County Chief Procurement Officer in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME: CAPITOL CEMENT COMPANY, INC

BUSINESS ADDRESS: 6231 N. PULASKI ROAD

CHICAGO, IL 60646

BUSINESS TELEPHONE: 773-478-2200 FAX NUMBER: 773-478-4646

CONTACT PERSON: DAVID SLONIM

FEIN: 36-0869820 *IL CORPORATE FILE NUMBER: 2455929 7

LIST THE FOLLOWING CORPORATE OFFICERS:

PRESIDENT: DAVID SLONIM VICE PRESIDENT: DAN MELNYK

SECRETARY: MIKE FARSACHI TREASURER: DAVID SLONIM

**SIGNATURE OF PRESIDENT: David Slonim

ATTEST: _____ (CORPORATE SECRETARY)

Subscribed and sworn to before me this

29th day of OCTOBER, 2013

OFFICIAL SEAL
ROBERTA C PASKON
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES:02/20/15

My commission expires: 2-20-15

X Roberta C Paskon
Notary Public Signature

Notary Seal

* **If the corporation is not registered in the State of Illinois, a copy of the Certificate of Good Standing from the state of incorporation must be submitted with this Signature Page.**

** **In the event that this Signature Page is signed by any persons than the President and Secretary, attach either a certified copy of the corporate by-laws, resolution or other authorization by the corporation, authorizing such persons to sign the Signature Page on behalf of the corporation.**

SURETY'S STATEMENT
of
QUALIFICATION FOR BONDING
(Section 10)

This document must be accurately executed (by the Surety Company) and yielded as part of this Bid.

IF THIS DOCUMENT IS NOT ACCURATELY EXECUTED AND SUBMITTED WITH THE BID PACKAGE, THIS CONSTITUTES CAUSE FOR DISQUALIFICATION OF THE VENDOR FROM BIDDING ON THIS CONTRACT.

The undersigned confirms that: Travelers Casualty and Surety Company of America
(SURETY COMPANY)

would execute a Performance/Payment Bond in favor of the County of Cook for the full amount

of the bid/contract: 13-88-13051
(NUMBER)

to: Capitol Cement Company, Inc.
(BIDDER)

The penalty of this bond is to be $ 100% of the Contract Amount
(TOTAL DOLLAR AMOUNT OF CONTRACT)

SURETY Travelers Casualty and Surety Company of America
Susan K. Landreth
(SURETY COMPANY'S AUTHORIZED SIGNATURE)

CORPORATE SEAL

Susan K. Landreth
(ATTORNEY-IN-FACT)

03609 AMB #

31194 NAIC

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
TRUST AGREEMENT

THIS TRUST AGREEMENT is made and entered into by and between the County of Cook, by and through the Department of Transportation and Highways, whose address is 69 West Washington, Suite 2300, Chicago, Illinois, 60602, hereinafter called the COUNTY, and Capitol Cement Company, Inc. whose address is 6231 N Pulaski Road - Chicago, IL 60646, _____, IL hereinafter called the CONTRACTOR, and The Private Bank and Trust Company, a FINANCIAL INSTITUTION or trust company located in Cook County, whose deposits are insured by an agency or instrumentality of the federal government and whose address is 120 S. LaSalle St. Chicago, IL 60603, IL, phone number (312) 564-2000 hereinafter called the FINANCIAL INSTITUTION. Contact person being John M. O'Connell.

WITNESSETH:

WHEREAS the COUNTY has awarded to the CONTRACTOR Cook County Contract Number **13-88-13051**, **Crawford Avenue – Devon Avenue to Oakton Street** Section Number **08-W4337-03-PV** providing for the construction of a COUNTY highway improvement for a total price of $ 18,728,293.17 dollars; and

WHEREAS under Section 5-409 of the Illinois Highway Code, as amended, the COUNTY is authorized to make progress payments as the CONTRACTOR performs the work under the contract and may retain a percentage of progress payments; and

WHEREAS the COUNTY may, at the request of CONTRACTOR, deposit the retainage under a Trust Agreement with a FINANCIAL INSTITUTION of the CONTRACTOR'S choice which is located in Cook County and has been approved for the deposit of such funds by the Superintendent of the Cook County Department of Transportation and Highways pursuant to Cook County Code Section 34-36; and

WHEREAS by execution of this Agreement, the CONTRACTOR and said FINANCIAL INSTITUTION request that the retainage be deposited with said FINANCIAL INSTITUTION as provided by law.

NOW THEREFORE, the parties do hereby agree that:

1. This Agreement shall not change any of the rights, duties, privileges or responsibilities of the parties to the above-referenced construction contract, except as may be provided herein.
2. Notwithstanding the provisions of this Agreement, the COUNTY may withhold progress payments or any portion thereof on account of lien claims, liquidated damages, or as may otherwise be provided by the above contract or by law.
3. All progress payments, including final payment under the above contract, shall be made by COUNTY warrants payable to the CONTRACTOR and FINANCIAL INSTITUTION, as trustee, jointly, and such payments shall be sent to the FINANCIAL INSTITUTION at the above address.

4. The progress payments shall specify on a copy of the COUNTY'S invoice to be mailed with the warrant the amount thereof to be paid to the CONTRACTOR and the amount to be held by the FINANCIAL INSTITUTION as retainage under this Agreement.

5. The money so held by the FINANCIAL INSTITUTION shall be described as "retainage" and shall be held in trust according to the terms of this Agreement. Interest earned on the retainage may be paid to the CONTRACTOR as it accrues or as the FINANCIAL INSTITUTION'S policy permits.

6. The principal balance of the retainage, or any part thereof, shall not be paid over to the CONTRACTOR except upon written directive to the FINANCIAL INSTITUTION by the COUNTY.

7. The FINANCIAL INSTITUTION may invest or reinvest said retainage in:

a. Certificates of Deposit issued by a financial institution whose principal office is located in Cook County, including this FINANCIAL INSTITUTION;

b. United States Government Bonds;

c. United States Treasury Notes;

d. United States Treasury Bills;

e. Time Deposit on Open Account.

Provided, however, that the investment of said retainage shall not relieve the FINANCIAL INSTITUTION from the return or repayment of such funds within ninety (90) days as provided in this Agreement.

8. Retainage is the property of the COUNTY until notice of final payment, and the principal amount, or any part thereof, shall not be pledged or used as security for any purpose.

9. The COUNTY shall be the sole judge of return or repayment of the funds to the Cook County Treasurer. Upon written demand made by the COUNTY to the FINANCIAL INSTITUTION for the return or repayment of the retainage, the FINANCIAL INSTITUTION shall make such return or repayment regardless of whether the COUNTY shall state any reason therefor and without imposition of any other requirements or conditions.

10. The repayment or return of retainage to the COUNTY shall be by check from the FINANCIAL INSTITUTION payable to the Treasurer of Cook County and shall be mailed to the COUNTY within ninety (90) days after the COUNTY'S demand.

11. The CONTRACTOR does not waive or release any rights he has against the COUNTY for breach of contract, including this Agreement, by reason of the repayment by the FINANCIAL INSTITUTION to the COUNTY on account of demand made by the COUNTY.

12. In the event demand for the retainage is made under this Agreement by the COUNTY, the COUNTY may specify, in its sole judgment, the amount to be repaid or returned as all or part of the principal balance of the retainage. This Agreement shall continue as to any retainage not returned to the COUNTY and any future payments by the COUNTY to the CONTRACTOR.

13. Upon return or repayment of the full principal balance of the retainage to the COUNTY, this Agreement shall terminate and have no further force or effect.

14. The COUNTY shall request confirmation of account balances as of June 30 of each year, and the FINANCIAL INSTITUTION shall comply with this request. The FINANCIAL INSTITUTION'S failure to comply with this provision shall be reason to demand return of the retainage pursuant to this Agreement.

15. The COUNTY shall provide notice of final payment to the FINANCIAL INSTITUTION and the CONTRACTOR. When said final payment is made, this Agreement shall be terminated and the retainage or interest thereon shall be paid to the CONTRACTOR by the FINANCIAL INSTITUTION. The COUNTY and the CONTRACTOR agree that the date of mailing such notice of final payment to the FINANCIAL INSTITUTION shall constitute the date of final payment to the CONTRACTOR under the contract. Any provisions of the contract regarding final payment shall be deemed to have been complied with regardless of any delay in the CONTRACTOR'S receiving said final payment or any retainage and interest thereon from the FINANCIAL INSTITUTION.

16. The FINANCIAL INSTITUTION shall look only to the CONTRACTOR to pay any costs or fees for either its services or expenses hereunder and no deduction shall be made therefor for any retainage or interest thereon except such deduction that may be made after final payment has been made.

17. Failure of the FINANCIAL INSTITUTION to comply with any of the terms of this Agreement shall be cause for the COUNTY to refuse approval of the FINANCIAL INSTITUTION as a party to any future Trust Agreements.

IN WITNESS WHEREOF the parties to this Trust Agreement have hereunder signed and executed this Trust Agreement this _____ day of _____, 20__.
(To be dated by the COUNTY.)

CONTRACTOR

Capitol Cement Co, Inc
Company Name

By: _____
Printed Name: David Slonim
Title: President

ATTEST: _____
Printed Name: Mike Fershchl
Title: Secretary

CONTRACTOR (IF JOINT VENTURE)

_____
Company Name

By: _____
Printed Name: _____
Title: _____

ATTEST: _____
Printed Name: _____
Title: _____

CONTRACTOR (IF JOINT VENTURE)

_____
Company Name

By: _____
Printed Name: _____
Title: _____

ATTEST: _____
Printed Name: _____
Title: _____

CONTRACTOR (IF JOINT VENTURE)

_____
Company Name

By: _____
Printed Name: _____
Title: _____

ATTEST: _____
Printed Name: _____
Title: _____

FINANCIAL INSTITUTION
The Private Bank and Trust Company

By: _____
Printed Name: John M. O'Connell
Title: Managing Director

ATTEST: _____
Printed Name: Karen Peterson
Title: AMD

COOK COUNTY
DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
By: _____
Superintendent

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Surety Bond No. 105924312

OR

Project Description: Crawford Avenue - Devon Avenue to Oakton Street / Contract No. 13-88-13051

Principal: Capitol Cement Company, Inc.

Obligee: County of Cook, Department of Highways

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Susan K. Landreth** of the City of **Chicago**, State of **IL**, their true and lawful Attorney-in-Fact, to sign, execute, seal and acknowledge the surety bond(s) referenced above.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this **10th** day of **September, 2012.**

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **10th** day of **September, 2012,** before me personally appeared **Robert L. Raney,** who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2016.**

Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 20th day of December, 2013.

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/26/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies)must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Willis of Illinois, Inc. c/o 26 Century Blvd. P. O. Box 305191 Nashville, TN 37230-5191	PHONE (A/C, NO, EXT): 877-945-7378	FAX (A/C, NO): 888-467-2378
	E-MAIL ADDRESS: certificates@willis.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A: Old Republic Insurance Company	24147-001
INSURED	INSURER B: Lexington Insurance Company	19437-001
Capitol Cement Company, Inc. 6231 N. Pulaski Rd Chicago, IL 60646	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** 20900562 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADD'L INSRD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY	Y	Y	A5CG97361303	3/1/2013	3/1/2014	EACH OCCURRENCE	$ 1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurence)	$ 300,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY X PRO-JECT X LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
A	AUTOMOBILE LIABILITY	Y	Y	A5CA97361302	3/1/2013	3/1/2014	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY(Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY(Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB / OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$
	DED / RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	A5CW97361303	3/1/2013	3/1/2014	X WC STATU-TORY LIMITS / OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
B	Pollution Liability Per Occurrence Aggregate	Y	Y	CPO15908381	11/12/2013	3/1/2015	$1,000,000 Limit $1,000,000 Limit	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach Acord 101, Additional Remarks Schedule, if more space is required)

Cook County Contract #13-88-13051

Re: Craford Avenue - Devon to Oakton Street, Section 08-W4337-03-PV

County of Cook, its officials and employees are included as Additional Insureds as respects to General Liability, Auto Liability and Pollution Liability where required by written contract.

General Liability policy shall be Primary and Non-contributory with any other insurance in force

CERTIFICATE HOLDER

OK Ted

County of Cook
118 North Clark Street
Chicago, IL 606021304

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Andrea Paino

Coll:4296469 Tpl:1749175 Cert:20900562

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AGENCY CUSTOMER ID: HRH87062

LOC#:

ACORD

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Willis of Illinois, Inc.	Capitol Cement Company, Inc. 6231 N. Pulaski Rd Chicago, IL 60646
POLICY NUMBER See First Page	
CARRIER: See First Page / NAIC CODE	EFFECTIVE DATE: See First Page

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

for or which may be purchased by Additional Insureds required by written contract.

Waiver of Subrogation applies in favor of County of Cook with respects to General Liability, Auto Liability, Pollution Liability and Workers Compensation, where required by written contract and as permitted by law.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
where required by written contract	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

© ISO Properties, Inc., 2004

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Additional Insured Person(s) Or Organization(s) where required by written contract	Location And Description of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/27/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Maggie Cebular
Assurance Agency, Ltd. One Century Centre 1750 E. Golf Road Schaumburg IL 60173-	PHONE (A/C, No, Ext): (847) 463-7791 FAX (A/C, No): 847-440-9123 E-MAIL ADDRESS: mcebular@assuranceagency.com
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A: St. Paul Fire & Marine
INSURED: CAPICEM-01 Capitol Cement Company, Inc. 6231 - 6233 N. Pulaski Road Chicago, IL 60646	INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES — CERTIFICATE NUMBER: 1509213055 — REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	[ ] COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	[ ] CLAIMS-MADE [ ] OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	[ ] POLICY [ ] PRO-JECT [ ] LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	[ ] ANY AUTO						BODILY INJURY (Per person)	$
	[ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	[ ] HIRED AUTOS [ ] NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
A	[X] UMBRELLA LIAB [X] OCCUR			ZUP-14P61776-13-NF	3/1/2013	3/1/2014	EACH OCCURRENCE	$9,000,000
	[ ] EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$9,000,000
	DED [X] RETENTION $ 10,000							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						[ ] WC STATU-TORY LIMITS [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: Crawford Avenue - Devon Avenue to Oakton Street Section 08-W4337-03-PV Cook County Contract # 13-88-13051;

Proof of Insurance Only;

OK Tmo

CERTIFICATE HOLDER

Cook County Department of Transportation and Highways
69 W. Washington Street
Attn: Elaine M. McLaughlin;Contract Documents Ofc.
Chicago IL 60602

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Donald A Kavanagh

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HUDSON INSURANCE GROUP®

RAILROAD PROTECTIVE LIABILITY INSURANCE GROUP

A voluntary membership organization whose principal office is:
4323 Warren Street, NW, Washington, D.C. 20016-2437

POLICY CERTIFICATE

THIS POLICY CERTIFICATE IS ISSUED UNDER MASTER POLICY NUMBER 201301
ISSUED TO RAILROAD PROTECTIVE INSURANCE GROUP

Policy Number: RRP3255700859

Named Insured: Chicago Transit Authority

and its affiliates including Designated Employees and:

1) Any subsidiary company of such organization, including any subsidiary company thereof:
   a. Existing at the effective date of this policy, or
   b. Acquired during the ?Policy Period"

2) Any other company controlled and actively managed by such organization or other subsidiary thereof:
   a. At the effective date of this policy, or
   b. Upon the acquisition of the control, and active management thereof if acquired during the ?Policy Period."

Named Insured Mailing Address: 567 West Lake Street Chicago, IL 60661

Contractor Name: Capitol Cement Co.

Contractor Address: 6231 North Pulaski Road Chicago, Il 60646

Project Work: Reconstruct Crawford Ave. Work will NOT include the Railroad Crossig. Capitol's work will stop at the limits. The only RR work done will be Subcontractor. Electrical sub will reconfigure arms on gates for access to one side of the road while work is done on the other side.

Location of Work: Crawford Avenue / Devon to Oakton St., Skokie, IL

Contract Cost Within 50 Ft: $ 100,000

Contract # or Name: 011 IL-CC

Work Performed For: Railroad

Policy Period: EFFECTIVE DATE: 3/1/2014 12:01 AM to EXPIRATION DATE: 8/30/2015 12:01 AM

Limits of Liability: $5,000,000 per occurrence; $ 10,000,000 policy certificate aggregate
Limits apply separately per policy certificate issued under the Master Policy.

Territory: United States of America

Premium: $3,450.00

Notice: Notices required to be given by the Named Insured under this policy shall be sent to:
Attn Claims Dept
Hudson Insurance Company
100 William Street, 5th floor
New York, NY 10038
You may also call 1-866-546-3981 or email HudsonClaims300@HudsonInsGroup.com to discuss your policy coverage or to report or discuss a claim

Wording: As per the Railroad Protective Form CG00351207; CG21700108; IL00210908; HASB0010111; HTER0010111 and all required state amendatory endorsements.

Terms: All other terms and conditions as per the referenced Policy Form above and applicable Endorsements.

Agent Name: Willis of Illinois

Agent Address: 233 S. Wacker Drive Ste. 2000 Chicago, IL 60606

Authorized Representative

DATE: 12/27/2013

01/2400

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Surety Bond No. Bid Bond

OR

Project Description: Crawford Ave. from Devon to Oakton St.

Principal: Capitol Cement Company, Inc.

Obligee: County of Cook, Department of Highways

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc. is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Susan K. Landreth** of the City of **Chicago** , State of **IL** , their true and lawful Attorney-in-Fact, to sign, execute, seal and acknowledge the surety bond(s) referenced above.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this **10th** day of **September, 2012.**

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **10th** day of **September, 2012**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2016.**

Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 6th day of November , 2013 .

Kevin E. Hughes

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named Individuals and the details of the bond to which the power is attached.

COUNTY OF COOK
DEPARTMENT OF HIGHWAYS

Proposal Bid Bond

Project Crawford Ave. from Devon to Oakton St.
Section 08-W4337-03-PV Route W43
Date November 6, 2013
Letting

We Capitol Cement Company, Inc. as PRINCIPAL, and Travelers Casualty and Surety Company of America as SURETY, are held and firmly bound unto the County of Cook a body politic and corporate of the state of Illinois herein after called the County in the penal sum of 5% of the total bid price, or for the amount specified in Article 102.09 of the "Standard Specifications for Road and Bridge Construction" in effect on the date of invitation for bids. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly to pay to the County this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the County acting through its awarding agency for the construction of the work designated as the above section.

THEREFORE, if the proposal is accepted and a contract awarded to the PRINCIPAL by the County for the above-designated section, and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the County determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the County acting through its awarding agency shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers and their corporate seals to be hereunto affixed this 6th day of November A.D. 2013.

PRINCIPAL

Capitol Cement Company, Inc.
(Company Name) (Seal)

BY: David Sloman President
(Signature & Title)

(Company Name) (Seal)

BY: _____
(Signature & Title)

(If PRINCIPAL is a joint venture of two or more contractors, the company names, seals and authorized signatures of each contractor must be affixed.)

SURETY

Travelers Casualty and Surety Company of America
(Name of Surety) (Seal)

BY: Susan K. Landreth
(Signature of Attorney-in-fact)
Susan K. Landreth

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONN.

STATE OF Illinois
COUNTY OF Cook

I, Ila Delman, a Notary Public in and for Cook County, do hereby certify that Susan K. Landreth
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY.)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed, sealed, and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this 6th day of November A.D. 2013.

My commission expires June 15, 2015

Ila Delman
Ila Delman Notary Public

"OFFICIAL SEAL"
ILA DELMAN
NOTARY PUBLIC - STATE OF ILLINOIS
MY COMMISSION EXPIRES JUNE 15, 2015

NOTICE

1. IMPROPER EXECUTION OF THIS FORM (i.e. MISSING SIGNATURES OR SEALS OR INCOMPLETE CERTIFICATION) WILL RESULT IN BID BEING DECLARED IRREGULAR.
2. IF BID BOND IS USED IN LIEU OF PROPOSAL GUARANTY CHECK, IT MUST BE ON THIS FORM AND MUST BE SUBMITTED WITH BID.

CONTRACT
(SECTION 10)

This AGREEMENT made and entered into this ____ day of _____ A.D., 20____ by and between the County of Cook, party of the first part and hereinafter called County, and _____, party of the second part and hereinafter called Contractor.

WITNESSETH:

That for and in consideration of the payments to be made by the said County as hereinafter provided, the said Contractor hereby covenants and agrees with the said County to do all the work and furnish all the labor, materials, machinery, apparatus, implements, tools, and other things necessary for the improvement of a section of the public highway known as Cook County Contract # **13-88-13051**, **Crawford Avenue – Devon Avenue to Oakton Street**. In the Township of **Niles**, County of Cook, and State of Illinois, said section known or to be known as Section: **08-W4337-03-PV** Route **W43** at his own cost and expense, free from all liens, claims, and charges whatsoever, and in a good substantial, thorough and workmanlike manner, and in strict and full accordance, conformity and compliance with all the terms and conditions of this contract and the requirements under it of the Superintendent of Department of Transportation and Highways of Cook County, Illinois, and under the direction and to the satisfaction of the said Superintendent of Department of Transportation and Highways.

It is expressly understood and agreed by and between said County and said Contractor that the Bid hereto attached and Notice to Contractors, Specifications, Plans, Maps, Blue Prints, and Drawings, on file in the Office of the Superintendent of Department of Transportation and Highways of Cook County, Illinois, and in the office of the Department of Transportation, Springfield, Illinois, copies of which are hereto attached, hereby are included in and made a part of this contract.

The Contractor shall not begin construction operations until the contract has been approved by the Board of Cook County Commissioners and fully executed by the County. Subsequent to contract execution, the Contractor will be notified by a notice-to-proceed letter from the Superintendent of Cook County Department of Transportation of Highways to commence operations on a specified date. The undersigned agrees to start construction operations on the date so specified and to complete the proposed improvement in full compliance with the final contract date on or before **August 28, 2015 (with interim completion dates of June 30, 2014 and November 21, 2014)**. Please refer to Special Provision for Scheduling and Landscaping in the Contract Book.

The Superintendent of Cook County Department of Transportation and Highways shall at the end of each month make an estimate in writing, such as in his opinion shall be just and fair, of the amount of materials furnished, delivered, properly set in place and incorporated into the herein described

improvement, and the amount of work properly done by said Contractor in the performance of the work hereunder and the value thereof under and according to the terms of this contract.

The first estimate shall cover the amount of work performed and the value of the materials properly set in place and incorporated into the herein described improvement since said Contractor commenced the performance of this contract, and each subsequent estimate, except the final one, shall be of the amount of work performed and the value of the materials properly set in place and incorporated into said improvement since the last preceding estimate was made.

Such estimates of amount and quality shall not be required to be made by strict measurement, but shall be sufficient if they are made approximately only, and each such estimate shall be submitted to the Board of County Commissioners of Cook County and upon approval by said Board of Commissioners said County shall pay to said Contractor ninety per cent (90%) of the amount stated in said estimates.

At least one week before each payment falls due, said Contractor shall submit to said Superintendent of Department of Transportation and Highways requisition for such payment, and, shall, if required, submit therewith an itemized statement of the quantities and cost and proportionate profit of work performed to the termination of the period to be covered by such payment, together with an affidavit setting forth that the items in said statement are true and just, that the services were rendered, that the articles or materials were furnished, that the sum claimed is due and unpaid, after allowing all just credits, that all labor, materials, apparatus, fixtures, and machinery furnished or used have been paid for, and if not, stating those not paid for, giving the amount due, to whom due, and for what due, attaching to said affidavit waivers of lien from those mentioned in said exceptions as having unpaid claims, and such affidavit shall contain such other matter as may be deemed necessary by the said Superintendent of Department of Transportation and Highways to protect said County in its payments, and any such statement shall not be binding upon said Superintendent of Department of Transportation and Highways.

There shall be deducted from the amount so determined for the first fifty (50) percent of the completed work a sum of ten (10) percent to be retained until after the completion of the entire work to the satisfaction of the County. After fifty (50) percent or more of the work is completed, the County may, at its discretion, certify the remaining partial payments without any further retention, provided that satisfactory progress is being made, and provided that the amount retained is not less than five (5) percent of the total adjusted contract price.

It is expressly agreed by the parties hereto that in the event any defects or imperfections in the materials or workmanship to be furnished by the Contractor herein appear within the period of one year from the date of completion of all the work mentioned herein and the acceptance thereof by said County, the Contractor will, upon notice from the said Superintendent of Department of Transportation and Highways, (which notice may be given by letter mailed to said Contractor to the business address of the Contractor shown in the Proposal), repair and make good at his own cost any such defects or imperfections and replace any defective or imperfect materials or workmanship with other materials or workmanship satisfactory to said Superintendent of Department of Transportation and Highways, and furnish all such

new materials and labor as may be necessary to do so; and in the event of the failure, refusal or delay of said Contractor to so make good, repair or replace said workmanship or materials, said County may do so or have same done by others, and said Contractor and the surety or sureties on his bond given for the faithful performance of this contract shall be liable to the County of Cook for all damages and expense occasioned by such failure, refusal or delay.

It is expressly and mutually covenanted and agreed that all of the Plans and Specifications hereinbefore mentioned and this Instrument together are the documents forming the contract between said County and said Contractor and are correlative, and whatever may be provided for and required by one of said documents shall be as binding as if provided for and required by two or more of them.

The Contractor expressly agrees that not less than the general prevailing rate of wages as found by The Board of County Commissioners for the County of Cook in accordance with the provisions of "An Act regulating wages of laborers, mechanics and other workmen employed under contracts for public works", Approved June 26, 1941, as amended, or such wage rates as may be determined by the court on appeal as in said Act provided, shall be paid to all laborers, workmen and mechanics performing work under this contract. The prevailing wage rates as found by the said Board of County Commissioners are on file in the office of the County Clerk for the County of Cook.

It is expressly understood and agreed that if the said Contractor shall fail, refuse or neglect to comply with said contract and Plans and Specifications or any provisions therein contained, or to proceed according to the terms of said contract and Plans and Specifications or any part thereof, in the manner and at the time as directed by the said Superintendent of Department of Transportation and Highways, then the said County shall have the right, and The Board of County Commissioners of Cook County is hereby given authority on behalf of the said County to declare this contract forfeited, and the said County may re-bid the whole or any part thereof upon such terms as it may see fit without prejudice to any of its rights herein.

It is expressly understood and agreed by the parties hereto that the Superintendent of Department of Transportation and Highways shall fix and determine the amount of damages to be paid to said County by the said Contractor by reason of the failure or refusal to perform this contract or comply with the provisions thereof as aforesaid, and the said Contractor hereby agrees to be held liable for the amount so fixed and determined and agrees to pay such amount; and the said County shall apply in payment of any such amount so fixed and determined any and all sums on hand or due and owing to said Contractor, and if there be not sufficient money on hand or due and owing to said Contractor to balance and pay said amount so fixed and determined, then, in such case, any amount remaining unpaid shall be a valid and subsisting claim against the said Contractor and the surety or sureties on his bond given for the faithful performance of this agreement.

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
1	500	CU.YD.	BORROW EXCAVATION	$ 1.00	$ 500.00
2	1	L.SUM	CRAWFORD GRADE CROSSING (CTA)	$ 191,000.00	$ 191,000.00
3	43,569	CU.YD.	EARTH EXCAVATION	$ 5.00	$ 217,845.00
4	30	SQ.YD.	PAVER DRIVEWAY REMOVAL AND PLACEMENT	$ 135.00	$ 4,050.00
5	1	L.SUM	RAILROAD PROTECTIVE LIABILITY INSURANCE	$ 10,000.00	$ 10,000.00
6	160	GAL.	SPECIAL WASTE GROUND WATER DISPOSAL	$ 25.00	$ 4,000.00
7	1	L.SUM	SPECIAL WASTE PLANS AND REPORTS	$ 7,500.00	$ 7,500.00
8	4,035	EACH	BOWLES PERIWINKLE (VINCA MINOR BOWLES), 4 IN PLUG	$ 3.00	$ 12,105.00
9	100	EACH	BULBS, GLOBEMASTER ALLIUM (ALLIUM GLOBEMASTER)	$ 10.00	$ 1,000.00
10	7,400	EACH	BULBS, SPRING BEAUTY SCILLA (SCILLA SIBERICA SPRING BEAUTY)	$ 1.25	$ 9,250.00
11	2,100	EACH	BULBS, TETE A TETE DAFFODIL (NARCISSUS DAFFODIL TETE A TETE)	$ 1.25	$ 2,625.00
12	490	EACH	FORBS, BLUE HILL SALVIA (SALVIA X SYLVESTRIS BLUE HILL), 1 GALLON	$ 10.00	$ 4,900.00
13	230	EACH	FORBS, HAPPY RETURNS DAYLILY (HEMEROCALLIS HAPPY RETURNS), 1 GALLON	$ 10.00	$ 2,300.00
14	948	EACH	FORBS, MAX FREI GERANEUM (GERANEUM MAX FREI), 1 GAL	$ 10.00	$ 9,480.00
15	280	EACH	FORBS, MOONSHINE YARROW (ARCHILLEA X MOONSHINE), 1 GALLON	$ 10.00	$ 2,800.00
16	230	EACH	FORBS, PARDON ME DAYLILY (HEMEROCALLIS PARDON ME), 1 GAL	$ 10.00	$ 2,300.00
17	132	EACH	FORBS, PURPLE DOME ASTER (ASTER PURPLE DOME), 1 GALLON	$ 10.00	$ 1,320.00
18	230	EACH	FORBS, ROSY RETURNS DAYLILY (HEMEROCALLIS ROSY RETURNS), 1 GALLON	$ 10.00	$ 2,300.00
19	32	EACH	FORBS, RUSSIAN SAGE (PEROVSKIA ATRIPLICIFOLIA), 1 GALLON	$ 10.00	$ 320.00
20	264	EACH	FORBS, VIETTES LITTLE SUZY BLACK EYED SUSAN (RUDBECKIA VIETTES LITTLE SUZY), 1 GALLON	$ 10.00	$ 2,640.00
21	155	EACH	FORBS, WALKERS LOW CATMINT (NEPETA X FAASSENNII WALKERS LOW), 1 GALLON	$ 10.00	$ 1,550.00
22	132	EACH	GRASSES, HAMELN FOUNTAINGRASS (PENNISETUM ALLOPECURIODES HAMELN), 1 GALLON	$ 10.00	$ 1,320.00
23	32	EACH	GRASSES, KARL FOERSTER GRASS (CALAMAGROSTIS X ACUTIFLORA KARL FOERSTER), 1 GALLON	$ 10.00	$ 320.00
24	146	EACH	GRASSES, PRAIRIE DROPSEED GRASS (SPOROBOLUS HETEROLEPSIS), 1 GALLON	$ 10.00	$ 1,460.00
25	4,385	EACH	GROUND COVER, GREEN CARPET JAPANESE SPURGE (PACHYSANDRA GREEN CARPET), 4 IN PLUG	$ 2.75	$ 12,058.75
26	920	EACH	GROUND COVER, LILY TURF (LIRIOPE SPICATA), 1 GALLON	$ 10.00	$ 9,200.00
27	1,565	EACH	GROUND COVER, THORNDALE ENGLISH IVY (HEDERA HELIX THORNDALE), 4 IN PLUG	$ 2.75	$ 4,303.75
28	266	CU.YD	HARDWOOD MULCH (SHREDDED AND SCREENED BROWN HARDWOOD MULCH)	$ 50.00	$ 13,300.00
29	1	EACH	IRRIGATION SYSTEM - AREA 1	$ 43,742.00	$ 43,742.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
30	1	EACH	IRRIGATION SYSTEM - AREA 2	$ 46,557.00	$ 46,557.00
31	1	EACH	IRRIGATION SYSTEM - AREA 3	$ 47,113.00	$ 47,113.00
32	560	POUND	NITROGEN FERTILIZER NUTRIENT	$ 1.75	$ 980.00
33	560	POUND	PHOSPHORUS FERTILIZER NUTRIENT	$ 1.75	$ 980.00
34	560	POUND	POTASSIUM FERTILIZER NUTRIENT	$ 1.75	$ 980.00
35	24	EACH	SHRUBS, THE KNOCKOUT ROSE (ROSA KNOCKOUT) ,5-GALLON	$ 50.00	$ 1,200.00
36	14,800	SQ.YD.	SODDING, SALT TOLERANT	$ 5.00	$ 74,000.00
37	3,100	UNIT	SUPPLEMENTAL WATERING	$ 0.01	$ 31.00
38	2,402	CU.YD.	TOPSOIL FURNISH AND PLACE	$ 23.50	$ 56,447.00
39	14,800	SQ.YD.	TOPSOIL FURNISH AND PLACE, 4 IN	$ 4.50	$ 66,600.00
40	1,420	UNIT	TREE REMOVAL (6 TO 15 UNITS DIA)	$ 2.00	$ 2,840.00
41	3,875	UNIT	TREE REMOVAL (OVER 15 UNITS DIA)	$ 2.00	$ 7,750.00
42	98	EACH	TREE SLOW RELEASE WATERING BAG	$ 50.00	$ 4,900.00
43	6	EACH	TREE, AUTUMN BLAZE MAPLE (ACER X FREMANNII AUTUMN BLAZE), 3 IN CALIPER, BALLED AND BURLAPPED	$ 450.00	$ 2,700.00
44	10	EACH	TREE, CHANTICLEER PEAR (PYRUS CALLERYANNA CHANTICLEER), 3 IN CALIPER, BALLED AND BURLAPPED	$ 450.00	$ 4,500.00
45	20	EACH	TREE, GYMNOCLADUS DIOICUS (KENTUCKY COFFEETREE), 3.5 IN CALIPER, BALLED AND BURLAPPED	$ 550.00	$ 11,000.00
46	5	EACH	TREE, KENTUCKY COFFETREE (GYMNOCLADUS DIOICUS), 3 IN CALIPER, BALLED AND BURLAPPED	$ 500.00	$ 2,500.00
47	14	EACH	TREE, PRUNUS VIRGINIANA (CANADIAN CHOKECHERRY), 3 IN CALIPER, BALLED AND BURLAPPED	$ 475.00	$ 6,650.00
48	6	EACH	TREE, PYRUS CALLERYANA CHANTICLEER (CHANTICLEER CALLERY PEAR), 3.5 IN CALIPER, BALLED AND BURLAPPED	$ 500.00	$ 3,000.00
49	20	EACH	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 3.5 IN CALIPER, BALLED AND BURLAPPED	$ 600.00	$ 12,000.00
50	8	EACH	TREE, SHADEMASTER HONEYLOCUST (GLEDITSIA TRIACANTHOS SHADEMASTER), 3 IN CALIPER, BALLED AND BURLAPPED	$ 450.00	$ 3,600.00
51	9	EACH	TREE, TRIUMPH ELM (ULMUS X MORTON GLOSSY), 3 IN CALIPER, BALLED AND BURLAPPED	$ 450.00	$ 4,050.00
52	7,800	SQ.YD.	EROSION CONTROL BLANKET	$ 1.25	$ 9,750.00
53	238	EACH	INLET FILTERS	$ 100.00	$ 23,800.00
54	835	FOOT	PERIMETER EROSION BARRIER	$ 2.80	$ 2,338.00
55	20	TON	AGGREGATE (PRIME COAT)	$ 15.00	$ 300.00
56	150	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 10 IN	$ 10.00	$ 1,500.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
57	11,000	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 4 IN	$ 4.00	$ 44,000.00
58	350	SQ.YD.	AGGREGATE BASE COURSE, TYPE B, 8 IN	$ 8.00	$ 2,800.00
59	250	TON	AGGREGATE FOR TEMPORARY ACCESS	$ 35.00	$ 8,750.00
60	68,950	SQ.YD.	AGGREGATE SUBGRADE, 12 IN	$ 20.00	$ 1,379,000.00
61	1	L.SUM	CRUSHED STONE (TEMPORARY USE)	$ 50,000.00	$ 50,000.00
62	880	GAL.	BITUMINOUS MATERIALS (PRIME COAT)	$ 0.01	$ 8.80
63	60	TON	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	$ 156.14	$ 9,368.40
64	40	TON	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5, N70	$ 156.14	$ 6,245.60
65	740	TON	LEVELING BINDER (MACHINE METHOD) IL-9.5, N50	$ 106.14	$ 78,543.60
66	1,050	SQ.YD.	TEMPORARY BY-PASS PAVEMENT	$ 50.00	$ 52,500.00
67	250	SQ.YD.	PAVEMENT FABRIC	$ 8.00	$ 2,000.00
68	2,300	SQ.YD.	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, HIGH-EARLY-STRENGTH, 8 IN.	$ 55.00	$ 126,500.00
69	60,100	SQ.YD.	PORTLAND CEMENT CONCRETE PAVEMENT, 10 IN	$ 47.50	$ 2,854,750.00
70	69,330	SQ.FT.	PORTLAND CEMENT CONCRETE SIDEWALK, 5 IN	$ 4.00	$ 277,320.00
71	8,650	SQ. FT.	PORTLAND CEMENT CONCRETE SIDEWALK, HIGH-EARLY-STRENGTH, 8 IN.	$ 5.00	$ 43,250.00
72	17,100	SQ.YD.	PROTECTIVE COAT	$ 0.01	$ 171.00
73	29,200	FOOT	COMBINATION CURB AND GUTTER REMOVAL	$ 3.00	$ 87,600.00
74	2,760	SQ.FT.	CONCRETE MEDIAN REMOVAL	$ 1.00	$ 2,760.00
75	220	FOOT	CURB REMOVAL	$ 2.00	$ 440.00
76	2,400	SQ.YD.	DRIVEWAY PAVEMENT REMOVAL	$ 10.00	$ 24,000.00
77	54,920	SQ.YD.	PAVEMENT REMOVAL	$ 28.00	$ 1,537,760.00
78	77,980	SQ.FT.	SIDEWALK REMOVAL	$ 2.00	$ 155,960.00
79	757	SQ.YD.	PAVEMENT REPLACEMENT	$ 155.00	$ 117,335.00
80	1,628	SQ.FT.	DETECTABLE WARNINGS	$ 40.00	$ 65,120.00
81	8,790	FOOT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	$ 17.00	$ 149,430.00
82	19,750	FOOT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	$ 19.00	$ 375,250.00
83	220	FOOT	CONCRETE CURB, TYPE B	$ 25.00	$ 5,500.00
84	2,170	SQ.FT.	CONCRETE MEDIAN, TYPE SB-6.12	$ 11.00	$ 23,870.00
85	150,000	UNIT	CONTRACT EXTRA WORK	$ 1.00	$ 150,000.00
86	24	CAL.MO.	ENGINEERS FIELD OFFICE, TYPE A	$ 1,500.00	$ 36,000.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
87	1	L.SUM	CONSTRUCTION LAYOUT STAKES AND SURVEY CONTROL POINTS	$ 201,000.00	$ 201,000.00
88	3	EACH	SURVEY MONUMENTS	$ 1,500.00	$ 4,500.00
89	240	FOOT	CHAIN LINK FENCE REMOVAL	$ 10.00	$ 2,400.00
90	240	FOOT	CHAIN LINK FENCE, 6 FT	$ 38.00	$ 9,120.00
91	829	FOOT	STORM SEWER REMOVAL, 10 IN	$ 37.60	$ 31,170.40
92	1,191	FOOT	STORM SEWER REMOVAL, 12 IN	$ 37.60	$ 44,781.60
93	1,157	FOOT	STORM SEWER REMOVAL, 15 IN	$ 37.60	$ 43,503.20
94	488	FOOT	STORM SEWER REMOVAL, 18 IN	$ 37.60	$ 18,348.80
95	158	FOOT	STORM SEWER REMOVAL, 21 IN	$ 37.60	$ 5,940.80
96	567	FOOT	STORM SEWER REMOVAL, 6 IN	$ 31.96	$ 18,121.32
97	3,084	FOOT	STORM SEWER REMOVAL, 8 IN	$ 31.96	$ 98,564.64
98	34	EACH	BLOCKING EXISTING DRAINS AND SEWERS (18 IN OR LESS)	$ 541.00	$ 18,394.00
99	1	EACH	BLOCKING EXISTING DRAINS AND SEWERS (OVER 18 IN)	$ 282.00	$ 282.00
100	47	EACH	FILLING VALVE VAULTS	$ 540.50	$ 25,403.50
101	1	CU.YD.	STORM SEWERS, ABANDON & FILL	$ 1,214.32	$ 1,214.32
102	1	L.SUM	FLOW METER SYSTEM	$ 60,000.00	$ 60,000.00
103	1,835	FOOT	PIPE UNDERDRAINS, PERFORATED POLYVINYL CHLORIDE (PVC) PIPE, 6 IN	$ 40.00	$ 73,400.00
104	17	EACH	PLUGGING EXISTING DRAINS AND SEWERS (12 IN OR LESS)	$ 535.00	$ 9,095.00
105	1,030	FOOT	STORM SEWERS, TYPE 1 (RCCP CLASS III) 36 IN	$ 150.40	$ 154,912.00
106	4,663	FOOT	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 12 IN	$ 74.00	$ 345,062.00
107	800	FOOT	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 15 IN	$ 115.62	$ 92,496.00
108	1,220	FOOT	STORM SEWERS, TYPE 1 (RCCP CLASS IV) 24 IN	$ 108.10	$ 131,882.00
109	528	FOOT	STORM SEWERS, TYPE 2 (RCCP CLASS III) 15 IN	$ 101.52	$ 53,602.56
110	211	FOOT	STORM SEWERS, TYPE 2 (RCCP CLASS III) 18 IN	$ 105.28	$ 22,214.08
111	5,019	FOOT	STORM SEWERS, TYPE 2 (RCCP CLASS III) 42 IN	$ 174.84	$ 877,521.96
112	5	EACH	CATCH BASINS TO BE ADJUSTED	$ 750.00	$ 3,750.00
113	210	EACH	CATCH BASINS, TYPE A2, 4 FT DIA WITH FRAME AND GRATE	$ 1,250.00	$ 262,500.00
114	17	EACH	CATCH BASINS, TYPE C, 2 FT DIA WITH FRAME AND GRATE	$ 3,660.00	$ 62,220.00
115	62	EACH	REMOVING CATCH BASINS	$ 300.00	$ 18,600.00
116	11	EACH	INLETS, TYPE A, WITH FRAMES AND GRATES	$ 3,250.00	$ 35,750.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
117	63	EACH	REMOVING INLETS	$ 100.00	$ 6,300.00
118	7	EACH	MANHOLES TO BE ADJUSTED	$ 750.00	$ 5,250.00
119	17	EACH	MANHOLES, TYPE A, 4 FT DIA WITH FRAME AND GRATE	$ 2,573.72	$ 43,753.24
120	6	EACH	MANHOLES, TYPE A, 5 FT DIA WITH FRAME AND GRATE	$ 2,852.90	$ 17,117.40
121	17	EACH	MANHOLES, TYPE A, 6 FT DIA WITH FRAME AND GRATE	$ 4,361.60	$ 74,147.20
122	2	EACH	MANHOLES, TYPE A, 6 FT DIA WITH RESTRICTOR PLATE, FRAME AND LID	$ 13,578.30	$ 27,156.60
123	38	EACH	REMOVING MANHOLES	$ 470.00	$ 17,860.00
124	1	EACH	SANITARY MANHOLES, DROP, 4 FT DIA WITH TYPE 1 FRAME AND CLOSED LID	$ 6,448.40	$ 6,448.40
125	825	FOOT	ADJUSTING WATER SERVICES	$ 82.72	$ 68,244.00
126	1,600	FOOT	CASING PIPE FOR WATER SERVICES, 2 IN	$ 20.68	$ 33,088.00
127	30	FOOT	CASING PIPE FOR WATER SERVICES, 4 IN	$ 24.44	$ 733.20
128	39	EACH	CONNECTION TO EXISTING WATER MAIN	$ 9,063.48	$ 353,475.72
129	2	EACH	DOMESTIC METER VAULTS TO BE ADJUSTED	$ 1,376.00	$ 2,752.00
130	2	EACH	DOMESTIC WATER SERVICE BOXES TO BE ADJUSTED	$ 1,141.00	$ 2,282.00
131	55	EACH	WATER SERVICE CONNECTION (LONG)	$ 12,690.00	$ 697,950.00
132	48	EACH	WATER SERVICE CONNECTION (SHORT)	$ 6,392.00	$ 306,816.00
133	178	FOOT	CASING PIPE FOR WATER MAIN, 16 IN	$ 192.70	$ 34,300.60
134	125	FOOT	CASING PIPE FOR WATER MAIN, 20 IN	$ 258.50	$ 32,312.50
135	59	FOOT	CASING PIPE FOR WATER MAIN, 30 IN	$ 329.00	$ 19,411.00
136	60	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 10 IN	$ 122.20	$ 7,332.00
137	6,950	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 12 IN	$ 131.60	$ 914,620.00
138	190	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 16 IN	$ 242.52	$ 46,078.80
139	110	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 18 IN	$ 266.02	$ 29,262.20
140	320	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 20 IN	$ 272.60	$ 87,232.00
141	20	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 4 IN	$ 81.78	$ 1,635.60
142	400	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 6 IN	$ 84.60	$ 33,840.00
143	540	FOOT	DUCTILE IRON WATER MAIN (CLASS 52) 8 IN	$ 94.00	$ 50,760.00
144	135	FOOT	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 12 IN, SPECIAL	$ 56.40	$ 7,614.00
145	24	FOOT	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 18 IN, SPECIAL	$ 89.30	$ 2,143.20
146	35	FOOT	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 20 IN, SPECIAL	$ 117.50	$ 4,112.50

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
147	140	FOOT	DUCTILE IRON WATER MAIN IN CASING (CLASS 52) 8 IN, SPECIAL	$ 39.48	$ 5,527.20
148	350	FOOT	DUCTILE IRON WATER MAIN, RESTRAINED JOINT, 12 IN	$ 152.28	$ 53,298.00
149	5,000	POUND	EXTRA DUCTILE IRON FITTINGS AND ACCESSORIES	$ 7.52	$ 37,600.00
150	2	EACH	NITRILE GASKETS FOR WATER MAIN 10 IN	$ 30.08	$ 60.16
151	75	EACH	NITRILE GASKETS FOR WATER MAIN 12 IN	$ 30.08	$ 2,256.00
152	10	EACH	NITRILE GASKETS FOR WATER MAIN 16 IN	$ 56.40	$ 564.00
153	2	EACH	NITRILE GASKETS FOR WATER MAIN 18 IN	$ 70.50	$ 141.00
154	10	EACH	NITRILE GASKETS FOR WATER MAIN 20 IN	$ 84.60	$ 846.00
155	2	EACH	NITRILE GASKETS FOR WATER MAIN 4 IN	$ 9.40	$ 18.80
156	2	EACH	NITRILE GASKETS FOR WATER MAIN 6 IN	$ 11.28	$ 22.56
157	10	EACH	NITRILE GASKETS FOR WATER MAIN 8 IN	$ 18.80	$ 188.00
158	70	FOOT	STEEL CASING PIPE AUGER AND JACK 20 IN	$ 846.00	$ 59,220.00
159	2	EACH	WATER MAIN LINE STOP, 12 IN	$ 7,050.00	$ 14,100.00
160	2	EACH	WATER MAIN LINE STOP, 6 IN	$ 5,358.00	$ 10,716.00
161	2	EACH	WATER MAIN LINE STOP, 8 IN	$ 6,016.00	$ 12,032.00
162	36	EACH	SANITARY MANHOLES TO BE ADJUSTED	$ 750.00	$ 27,000.00
163	5	EACH	SANITARY MANHOLES, 4 FT DIA, WITH FRAME AND LID	$ 3,036.20	$ 15,181.00
164	32	FOOT	SANITARY SEWER REMOVAL, 8 IN	$ 47.00	$ 1,504.00
165	944	FOOT	SANITARY SEWER, (POLYVINYL CHLORIDE PIPE SDR-26) 8 IN.	$ 98.70	$ 93,172.80
166	102	EACH	BUFFALO BOXES TO BE REMOVED	$ 164.50	$ 16,779.00
167	50	EACH	VALVE VAULTS TO BE ADJUSTED	$ 750.00	$ 37,500.00
168	2	EACH	VALVE VAULTS, TYPE A, 4 FT DIA WITH FRAME AND GRATE	$ 2,162.00	$ 4,324.00
169	21	EACH	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 4 FT	$ 2,162.00	$ 45,402.00
170	25	EACH	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 5 FT	$ 2,569.96	$ 64,249.00
171	10	EACH	VALVE VAULTS, TYPE A, TYPE 1 FRAME, CLOSED LID 6 FT	$ 3,384.00	$ 33,840.00
172	2	EACH	WATER VALVE BOXES TO BE ADJUSTED	$ 750.00	$ 1,500.00
173	1	EACH	WATER VALVES, 10 IN	$ 3,232.66	$ 3,232.66
174	25	EACH	WATER VALVES, 12 IN	$ 3,412.20	$ 85,305.00
175	4	EACH	WATER VALVES, 16 IN	$ 7,003.00	$ 28,012.00
176	1	EACH	WATER VALVES, 18 IN	$ 11,635.32	$ 11,635.32

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
177	5	EACH	WATER VALVES, 20 IN	$ 13,658.20	$ 68,291.00
178	1	EACH	WATER VALVES, 4 IN	$ 2,397.00	$ 2,397.00
179	2	EACH	WATER VALVES, 6 IN	$ 2,545.52	$ 5,091.04
180	17	EACH	WATER VALVES, 8 IN	$ 2,867.00	$ 48,739.00
181	23	EACH	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	$ 5,425.68	$ 124,790.64
182	21	EACH	FIRE HYDRANTS TO BE REMOVED	$ 775.50	$ 16,285.50
183	30	CU.YD.	BACKFILL PLUGS	$ 141.00	$ 4,230.00
184	196	CU.YD.	CONTROLLED LOW-STRENGTH MATERIAL	$ 194.00	$ 38,024.00
185	150	EACH	EXPLORATORY TRENCHES UP TO 10 FEET	$ 893.00	$ 133,950.00
186	16,810	CU.YD.	NON-SPECIAL WASTE DISPOSAL	$ 1.00	$ 16,810.00
187	3	EACH	SOIL DISPOSAL ANALYSIS	$ 5,000.00	$ 15,000.00
188	16,872	CU.YD.	TRENCH BACKFILL	$ 32.90	$ 555,088.80
189	1	EACH	PRESSURE CONNECTION 20 IN x 12 IN	$ 10,951.00	$ 10,951.00
190	1	EACH	PRESSURE CONNECTION 20 IN x 8 IN	$ 9,024.00	$ 9,024.00
191	1	EACH	PRESSURE CONNECTION 6 IN x 6 IN	$ 7,050.00	$ 7,050.00
192	400	SQ.YD.	TEMPORARY PAVEMENT	$ 55.00	$ 22,000.00
193	39	CAL.MO.	CHANGEABLE MESSAGE SIGN	$ 1,000.00	$ 39,000.00
194	1	EACH	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	$ 5,949.60	$ 5,949.60
195	1	L.SUM	TRAFFIC CONTROL DEVICES - DETOUR ROUTING	$ 18,000.00	$ 18,000.00
196	1	L.SUM	TRAFFIC PROTECTION	$ 260,000.00	$ 260,000.00
197	3,400	SQ.FT.	ERADICATION OF EXISTING PAVEMENT MARKING	$ 1.50	$ 5,100.00
198	705	SQ.FT.	MODIFIED URETHANE PAVEMENT MARKING - LETTERS AND SYMBOLS	$ 5.00	$ 3,525.00
199	4,820	FOOT	MODIFIED URETHANE PAVEMENT MARKING - LINE 12 IN	$ 2.50	$ 12,050.00
200	885	FOOT	MODIFIED URETHANE PAVEMENT MARKING - LINE 24 IN	$ 5.00	$ 4,425.00
201	24,885	FOOT	MODIFIED URETHANE PAVEMENT MARKING - LINE 4 IN	$ 0.65	$ 16,175.25
202	3,340	FOOT	MODIFIED URETHANE PAVEMENT MARKING - LINE 6 IN	$ 1.25	$ 4,175.00
203	10,280	FOOT	PAVEMENT MARKING TAPE, TYPE III, 4 IN	$ 0.95	$ 9,766.00
204	40	SQ.FT.	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	$ 5.00	$ 200.00
205	150	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 12 IN	$ 5.00	$ 750.00
206	35	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 24 IN	$ 10.00	$ 350.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
207	1,320	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 4 IN	$ 2.00	$ 2,640.00
208	80	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 6 IN	$ 4.00	$ 320.00
209	15	EACH	RELOCATE SIGN PANEL ASSEMBLY, TYPE A	$ 120.00	$ 1,800.00
210	1	EACH	RELOCATE SIGN PANEL ASSEMBLY, TYPE B	$ 140.00	$ 140.00
211	110	EACH	REMOVE SIGN PANEL ASSEMBLY, TYPE A	$ 25.00	$ 2,750.00
212	670	SQ.FT.	SIGN PANEL, TYPE 1	$ 36.00	$ 24,120.00
213	1,550	FOOT	TELESCOPING STEEL SIGN SUPPORT	$ 14.20	$ 22,010.00
214	2	EACH	ELECTRIC SERVICE INSTALLATION	$ 1,477.40	$ 2,954.80
215	1	L.SUM	ELECTRIC UTILITY SERVICE CONNECTION	$ 2,500.00	$ 2,500.00
216	77	EACH	LIGHT POLE BASE, CLAMSHELL, SPECIAL	$ 200.00	$ 15,400.00
217	77	EACH	LIGHT POLE BASE, HDPE, SPECIAL	$ 50.00	$ 3,850.00
218	2	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 4 & 12 FOOT DAVIT ARM, SPECIAL	$ 4,900.00	$ 9,800.00
219	2	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 180 - 8 FOOT DAVIT ARMS, SPECIAL	$ 4,790.00	$ 9,580.00
220	3	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, DUAL 90 - 8 FOOT DAVIT ARM, SPECIAL	$ 4,840.00	$ 14,520.00
221	70	EACH	LIGHT POLE, ALUMINUM, 30 FT FOOT MOUNTING HEIGHT, SINGLE - 8 FOOT DAVIT ARM, SPECIAL	$ 3,920.00	$ 274,400.00
222	2	EACH	LIGHTING CONTROLLER, SPECIAL	$ 8,800.00	$ 17,600.00
223	108	EACH	LUMINAIRE, ITEM F1, SPECIAL	$ 1,020.00	$ 110,160.00
224	5	EACH	LUMINAIRE, ITEM F2, SPECIAL	$ 1,020.00	$ 5,100.00
225	1	EACH	LUMINAIRE, ITEM F3, SPECIAL	$ 1,020.00	$ 1,020.00
226	1	L.SUM	MAINTENANCE OF LIGHTING SYSTEM COMPLETE	$ 8,300.00	$ 8,300.00
227	75	EACH	REMOVAL OF LIGHTING UNIT, SALVAGE	$ 417.50	$ 31,312.50
228	75	EACH	REMOVAL OF POLE FOUNDATION	$ 240.00	$ 18,000.00
229	4	EACH	LIGHT DETECTOR	$ 1,275.00	$ 5,100.00
230	2	EACH	LIGHT DETECTOR AMPLIFIER	$ 1,725.00	$ 3,450.00
231	18	EACH	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED	$ 619.50	$ 11,151.00
232	11	EACH	PEDESTRIAN COUNTDOWN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED	$ 1,084.50	$ 11,929.50
233	36	EACH	PEDESTRIAN PUSH-BUTTON	$ 338.50	$ 12,186.00
234	1	EACH	PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE I	$ 969.50	$ 969.50
235	4	EACH	FULL-ACTUATED CONTROLLER AND TYPE SUPER-P CABINET	$ 23,999.90	$ 95,999.60
236	1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET	$ 26,414.90	$ 26,414.90

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
237	52	EACH	INDUCTIVE LOOP DETECTOR	$ 92.00	$ 4,784.00
238	1	EACH	MASTER CONTROLLER	$ 10,255.00	$ 10,255.00
239	1	EACH	MODIFY EXISTING LIGHTING CONTROLLER	$ 834.90	$ 834.90
240	1	EACH	OPTIMIZE TRAFFIC SIGNAL SYSTEM	$ 7,245.00	$ 7,245.00
241	2	EACH	REMOVAL LIGHTING CONTROLLER, SPECIAL	$ 719.90	$ 1,439.80
242	1	EACH	UNINTERRUPTIBLE POWER SUPPLY	$ 4,855.00	$ 4,855.00
243	4	EACH	UNINTERRUPTIBLE POWER SUPPLY WITHOUT CABINET	$ 5,300.00	$ 21,200.00
244	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS, 16 FT AND 24 FT	$ 8,284.80	$ 8,284.80
245	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT	$ 4,774.90	$ 4,774.90
246	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 28 FT	$ 4,889.90	$ 4,889.90
247	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 30 FT	$ 5,292.40	$ 5,292.40
248	3	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 32 FT	$ 6,509.90	$ 19,529.70
249	2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT	$ 6,567.40	$ 13,134.80
250	2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT	$ 7,842.40	$ 15,684.80
251	6	EACH	TEMPORARY TRAFFIC SIGNAL TIMINGS	$ 575.00	$ 3,450.00
252	7	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT	$ 1,199.50	$ 8,396.50
253	8	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT	$ 1,222.50	$ 9,780.00
254	3	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-3 SECTION, BRACKET MOUNTED	$ 3,498.00	$ 10,494.00
255	2	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION OPTICALLY PROGRAMMED, 1-5 SECTION, BRACKET MOUNTED	$ 3,705.00	$ 7,410.00
256	1	EACH	COMBINATION SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION,1-5 SECTION OPTICALLY PROGRAMMED, BRACKET MOUNTED	$ 5,170.40	$ 5,170.40
257	7	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	$ 2,987.00	$ 20,909.00
258	1	EACH	OPTICALLY PROGRAMMED SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	$ 4,574.00	$ 4,574.00
259	2	EACH	SIGNAL HEAD, LED, 1-FACE, 1-SECTION, POST MOUNTED, RETROFIT	$ 177.50	$ 355.00
260	26	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	$ 631.00	$ 16,406.00
261	9	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED	$ 866.70	$ 7,800.30
262	5	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	$ 1,388.50	$ 6,942.50
263	4	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED	$ 1,038.50	$ 4,154.00
264	43	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	$ 91.20	$ 3,921.60
265	90	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 1 1/4 IN DIA	$ 10.60	$ 954.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
266	360	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2 IN DIA	$ 23.70	$ 8,532.00
267	19,520	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 IN DIA	$ 13.20	$ 257,664.00
268	10	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3 IN DIA	$ 24.80	$ 248.00
269	850	FOOT	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4 IN DIA	$ 30.70	$ 26,095.00
270	46	EACH	BANNER ARMS	$ 559.50	$ 25,737.00
271	1	EACH	TEMPORARY FLASHING BEACON INSTALLATION	$ 14,260.40	$ 14,260.40
272	6	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION	$ 69,456.00	$ 416,736.00
273	32	FOOT	CONCRETE FOUNDATION, TYPE A	$ 166.00	$ 5,312.00
274	10	FOOT	CONCRETE FOUNDATION, TYPE D	$ 652.50	$ 6,525.00
275	74	FOOT	CONCRETE FOUNDATION, TYPE E - 30 IN DIA	$ 189.00	$ 13,986.00
276	59	FOOT	CONCRETE FOUNDATION, TYPE E - 36 IN DIA	$ 248.00	$ 14,632.00
277	735	FOOT	LIGHT POLE FOUNDATION, SPECIAL	$ 189.60	$ 139,356.00
278	1	EACH	REMOVAL OF POLE FOUNDATION, FULL DEPTH	$ 480.00	$ 480.00
279	1	EACH	DOUBLE HANDHOLE	$ 3,127.40	$ 3,127.40
280	23	EACH	HANDHOLE	$ 1,299.90	$ 29,897.70
281	4	EACH	HEAVY-DUTY HANDHOLE	$ 1,957.40	$ 7,829.60
282	1,440	FOOT	DETECTOR LOOP, TYPE I	$ 20.10	$ 28,944.00
283	270	FOOT	ELECTRIC CABLE IN CONDUIT, 600 V (XLP-TYPE USE) 1/C NO 2	$ 5.20	$ 1,404.00
284	750	FOOT	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 3/0	$ 9.80	$ 7,350.00
285	66,035	FOOT	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	$ 1.10	$ 72,638.50
286	3,400	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING NO 6 1C (GREEN)	$ 1.30	$ 4,420.00
287	8,020	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO 14 1 PAIR	$ 0.90	$ 7,218.00
288	1,290	FOOT	ELECTRIC CABLE IN CONDUIT, NO 20 3/C, TWISTED, SHIELDED	$ 0.80	$ 1,032.00
289	475	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE NO 6 2C	$ 3.80	$ 1,805.00
290	3,940	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 2C	$ 0.90	$ 3,546.00
291	6,240	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 3C	$ 1.00	$ 6,240.00
292	8,550	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 5C	$ 1.30	$ 11,115.00
293	1,920	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO 14 7C	$ 1.50	$ 2,880.00
294	1,460	FOOT	ELECTRIC CABLE IN CONDUIT, TRACER NO 14 1C	$ 0.80	$ 1,168.00
295	1,460	FOOT	FIBER OPTIC CABLE IN CONDUIT, NO 62.5/125 MM12F & SM12F	$ 2.50	$ 3,650.00

SCHEDULE OF PRICES

ITEM NO.	QUAN-TITIES	UNIT	PAY ITEM	UNIT COST	TOTAL COST
296	3	EACH	FIBER-OPTIC TRANSCEIVER	$ 5,310.00	$ 15,930.00
297	11	EACH	GROUNDING EXISTING HANDHOLE FRAME AND COVER	$ 334.50	$ 3,679.50
298	4	EACH	SERVICE INSTALLATION, POLE MOUNTED	$ 1,649.90	$ 6,599.60
299	12	EACH	DRILL EXISTING HANDHOLE	$ 251.50	$ 3,018.00
300	4	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	$ 491.50	$ 1,966.00
301	3	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	$ 100.00	$ 300.00
302	5,870	FOOT	REMOVE ELECTRIC CABLE FROM CONDUIT	$ 0.40	$ 2,348.00
303	19	EACH	REMOVE EXISTING CONCRETE FOUNDATION	$ 360.00	$ 6,840.00
304	18	EACH	REMOVE EXISTING HANDHOLE	$ 240.00	$ 4,320.00
305	6	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	$ 15,920.00	$ 95,520.00
306	10	FOOT	WATER MAIN TO BE ADJUSTED 4 IN	$ 216.20	$ 2,162.00
307	10	FOOT	WATER MAIN TO BE ADJUSTED 6 IN	$ 240.64	$ 2,406.40
308	10	FOOT	WATER MAIN TO BE ADJUSTED 8 IN	$ 291.40	$ 2,914.00
309	10	FOOT	WATER MAIN TO BE ADJUSTED 10 IN	$ 376.00	$ 3,760.00
310	10	FOOT	WATER MAIN TO BE ADJUSTED 12 IN	$ 470.00	$ 4,700.00
311	10	FOOT	WATER MAIN TO BE ADJUSTED 16 IN	$ 611.00	$ 6,110.00
312	10	FOOT	WATER MAIN TO BE ADJUSTED 18 IN	$ 720.04	$ 7,200.40
313	10	FOOT	WATER MAIN TO BE ADJUSTED 20 IN	$ 947.52	$ 9,475.20
314	200	FOOT	STORM SEWER, (POLYVINYL CHLORIDE PIPE SDR-26) 12 IN	$ 105.28	$ 21,056.00
315	10	FOOT	ADJUSTING SANITARY SEWERS, 8 IN DIA OR LESS	$ 178.60	$ 1,786.00
316	10	FOOT	ADJUSTING SANITARY SEWERS, OVER 8 IN DIA	$ 199.28	$ 1,992.80
317	-	X	X	$ -	$ -
318	-	X	X	$ -	$ -
319	-	X	X	$ -	$ -
320	-	X	X	$ -	$ -
321	-	X	X	$ -	$ -
322	-	X	X	$ -	$ -
323	-	X	X	$ -	$ -
				TOTAL	$ 18,728,293.17

County of Cook
Department of Transportation and Highways

Proposal Bid Bond

Project _____
Section _____
Date _____
Letting _____

We _____
_____ as Principal, and _____
_____ as Surety, are held and firmly bound unto the County of Cook a body politic and corporate of the state of Illinois herein after called the County in the penal sum of 5% of the total bid price, or for the amount specified in Article 102.09 of the "Standard Specifications for Road and Bridge Construction" in effect on the date of invitation for bids. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly to pay to the County this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the County acting through its awarding agency for the construction of the work designated as the above section.

THEREFORE, if the proposal is accepted and a contract awarded to the PRINCIPAL by the County for the above-designated section, and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish the required insurance coverage, all as provided in the Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the County determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the County acting through its awarding agency shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and said SURETY have caused this instrument to be signed by their respective officers and their corporate seals to be hereunto affixed this _____ day of _____ A.D. 20 _____.

PRINCIPAL

_____ _____
(Company Name) (Seal) (Company Name) (Seal)

BY: _____ BY: _____
(Signature & Title) (Signature & Title)

(If PRINCIPAL is a joint venture of two or more contractors, the company names, seals and authorized signatures of each contractor must be affixed.)

SURETY

_____ BY: _____
(Name of Surety) (Seal) (Signature of Attorney-in-fact)

STATE OF ILLINOIS
COUNTY OF COOK

I, _____, a Notary Public in and for Cook County, do hereby certify that _____
_____
(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)
Who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed, sealed, and delivered said instrument as their free and voluntary act for the uses and purposes therein set forth.
Given under my hand and notarial seal this _____ day of _____ A.D., 20 _____. My commission expires _____

_____
Notary Public

*Improper execution of this form (i.e. Missing Signatures or Seals or incomplete certification) will result in bid being declared irregular.
** If Bid Bond is used in lieu of proposal guaranty check, it must be on this form and must be submitted with Bid.

BID DEPOSIT FORM

AS REQUIRED BY INSTRUCTION TO BIDDER OF/AND INCONJUNCTION WITH THE BID HEREWITH SUBMITTED

(THIS FORM MUST BE SUBMITTED WITH THE BID)

TO: COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS

BID FOR: CRAWFORD AVENUE

SECTION: 08-W4337-03-PV ROUTE W43

BID OPENING DATE: OCTOBER 30, 2013

We deposit (subject to all condition of said proposal) the following described deposit check:

( ) Cashier's Check ( ) Bank Draft (X) Bid Bond ( ) Other

Drawn on: _____ **of** _____
Bank **City** **State**

Draft or Check Number: _____ **Date:** _____

Amount: $ _____

Submitted by: CAPITOL CEMENT COMPANY, INC
Bidder
6231 N. PULASKI ROAD
Street Address
CHICAGO IL 60646
City **State** **Zip Code**

DO NOT WRITE IN THE SPACES BELOW

The above described Deposit Check is:

( ) Held _____ **Date** _____
( ) Mailed _____ **Date** _____
( ) Delivered To _____ **Date** _____
( ) Bond Substituted _____ **Date** _____
( ) Bond Mailed To _____ **Date** _____

COOK COUNTY SIGNATURE PAGE
(SECTION 9)

ON BEHALF OF THE COUNTY OF COOK, A BODY POLITIC AND CORPORATE OF THE STATE OF ILLINOIS, THIS CONTRACT IS HEREBY EXECUTED BY:

N/A
PRESIDENT, COOK COUNTY BOARD OF COMMISSIONERS

CHIEF PROCUREMENT OFFICER

DATED AT CHICAGO, ILLINOIS THIS 26 DAY OF February, 20 14.

IN THE CASE OF A BID, THE COUNTY HEREBY ACCEPTS:

THE FOREGOING BID AS IDENTIFIED IN THE CONTRACT DOCUMENTS FOR CONTRACT NUMBER

1388-13051

OR

ITEM(S), SECTION(S), PART(S):

TOTAL AMOUNT OF CONTRACT: $ 18,728,293.17
(DOLLARS AND CENTS)

FUND CHARGEABLE: 71820010.565140.5211

APPROVED AS TO FORM:

ASSISTANT STATE'S ATTORNEY