CITY OF JOLIET, ILLINOIS
HEGGIE PARK PHASE 1 WATER MAIN IMPROVEMENTS
CITY OF JOLIET CONTRACT NO. 2871-0325

N O T I C E

ALL BIDDERS MUST COMPLY WITH THE CITY OF JOLIET'S POLICY REGARDING THE INCREASED USE OF DISADVANTAGED BUSINESSES. THIS POLICY REQUIRES ALL BIDDERS TO ADVERTISE IN A DAILY, REGIONAL NEWSPAPER OR IN AN ESTABLISHED, ONLINE BIDDER'S CLEARINGHOUSE SUCH AS THE "DODGE REPORT (HTTP://CONSTRUCTION.COM/DODGE/)", "iSqFt (https://www.isqft.com/start/)", OR EQUIVALENT, UNLESS THE BIDDER WILL AWARD NO SUB-AGREEMENTS. THE ADVERTISEMENT MUST RUN ONE (1) DAY AT LEAST SIXTEEN (16) DAYS PRIOR TO BID OPENING. SEE PROJECT MANUAL FOR DETAILS.

NON-COMPLIANCE WILL DISQUALIFY YOUR BID.

CITY OF JOLIET, ILLINOIS
HEGGIE PARK PHASE 1
WATER MAIN IMPROVEMENTS

CITY OF JOLIET CONTRACT
NO. 2871-0325

PROJECT MANUAL

Baxter & Woodman, Inc.
Illinois
815.459.1260

Wisconsin
262.763.7834

Florida
561.655.6175

Texas
281.350.7027

00 01 07

SEALS PAGE

January 31, 2025

1. Specifications of materials and labor required for the construction work shown on the Drawings are prepared by Baxter & Woodman, Inc., Consulting Engineers.

2. The Drawings which accompany these Specifications are titled:

"City of Joliet, Illinois,
Heggie Park Phase 1 Water Main Improvements
City of Joliet Contract No. 2871-0325"

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Project Manager
License Expires 11/30/25



Project Manager
License Expires 11/30/25

BAXTER & WOODMAN, INC.
STATE OF ILLINOIS – PROFESSIONAL DESIGN FIRM
LICENSE NO. 184.001121-0014 - EXPIRES 4/30/2025

CITY OF JOLIET, ILLINOIS
HEGGIE PARK PHASE 1 WATER MAIN IMPROVEMENTS
PROJECT MANUAL

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ADVERTISEMENT FOR BIDS

CITY OF JOLIET, ILLINOIS
CONTRACT NO. 2871-0325

1. Time and Place of Opening Bids. Sealed proposals for the construction of the City of Joliet Contract No. 2871-0325 – Heggie Park Phase 1 Water Main Improvements for the City of Joliet, Will County, Illinois, will be received at the Office of the City Clerk, City of Joliet Municipal Building, 150 West Jefferson Street, Joliet, Illinois 60432-4156 until **10:00 A.M.** local time on **March 4, 2025,** and at that time will be publicly opened and unit price total read aloud. **BIDS WILL BE OPENED AND PUBLICLY READ ALOUD IN CONFERENCE ROOM 1, CITY OF JOLIET MUNICIPAL BUILDING.** It is highly recommended that bids be tabbed to mark the Bid Bond and unit price total pages. It is required that an electronic copy of the entire submission be included on a USB flash drive. Bid results will also be posted on the City's website, and emails sent out to individuals who have subscribed to the related RSS feed. It is preferred that you mail your bids/proposals. They should be addressed as follows:

CITY OF JOLIET – SEALED BID ENCLOSED
OFFICE OF THE CITY CLERK
150 W. JEFFERSON ST.
JOLIET, IL 60432

If you do choose to hand deliver your bid/proposal, they are to be hand delivered to the East or West side of City Hall, 150 W. Jefferson St., Joliet, IL 60432 and marked clearly on the outside of the SEALED package with the BID NUMBER AND NAME OF THE PROJECT, DATE AND TIME OF THE BID OPENING, NAME AND ADDRESS AND PHONE NUMBER OF YOUR COMPANY, and RECEIPT OF ALL ADDENDA (if applicable). All other doors will be locked. Please make sure to mention you are delivering a sealed bid/proposal, so the receiver knows to time stamp the envelope upon receipt. If dropping off a bid in person, bids must be dropped off during business hours only between 8:00 A.M. and 4:30 P.M. Receipt of your submittal in any location other than the City Clerk's office at City Hall, 150 W. Jefferson St., Joliet, IL 60432, does not constitute receipt. If you are using a delivery service, the fact that it was signed for by someone at City of Joliet does not constitute receipt. To ensure that your package was received prior to the opening, you can email cityclerk@joliet.gov or call 815-724-3780 to verify receipt of document.

2. Description of Work. The proposed construction consists of the installation of approximately 550 linear feet of 4-inch, 300 linear feet of 6-inch, 1,020 linear feet of 8-inch, 50 linear feet of 10-inch, 50 linear feet of 12-inch, 4,310 linear feet of 16-inch, and 2,050 linear feet of 24-inch water main via open cut methods, including new hydrants, services, and other miscellaneous items of work; installation of approximately 480 linear feet of 16-inch water main in 36" jacked casing; installation of approximately 330 linear feet of 12-inch sanitary sewer, and other miscellaneous items of work. The contract will include all work necessary to install the water main, install water service lines via directional drilling or open cut methods, reconnect existing water service lines, restore the roadway, and perform all restoration to return the area to its original condition.

3. Information for Bidders. Any contract or contracts awarded under this invitation for bids are expected to be funded in part by a loan from the Illinois Environmental Protection Agency (IEPA). Neither the State of Illinois nor any of its departments, agencies, or employees is or will be a party to this invitation for bids or any resulting contract. The procurement will be subject to regulations contained in the procedures for issuing loans from the Public Water Supply Loan Program (35 IAC Part 662), the Davis-Bacon Act (40 USC 276a through 276a-5) as defined by the United States Department of Labor, the Employment of Illinois Workers on Public Works Act (30 ILCS 570), the Illinois Works Jobs Program Act Apprenticeship Initiative, the Disadvantaged Business Enterprise policy per 40 CFR Part 33, as amended, and the "Use of American Iron and Steel" requirements as contained in Section 436 of H.R. 3547, the Consolidated Appropriations Act, 2014. This procurement is also subject to loan recipient's policy regarding the increased use of disadvantaged business enterprises. The loan recipient's policy requires all bidders to undertake specified affirmative efforts at least sixteen (16) days prior to bid opening. The policy is contained in the specifications.

Any contract(s) awarded under this invitation for bids are expected to be funded in part by a loan from the United States Environmental Protection Agency (EPA). The procurement must comply with the requirements of the Water Infrastructure Finance and Innovation Act (WIFIA).

All bidders will be required to submit Bid Security in the form of a Certified Check, Cashier's Check, or a Bid Bond in the amount of **Ten percent (10%) of the Base Bid**, payable to the City of Joliet. All Bidding Document holders should sign up for RSS feeds at: https://www.joliet.gov/government/departments/finance/purchasing/bids-proposals and provide your first and last name and email address to automatically receive addendums. Addendums will also be posted on the City of Joliet's website at: https://www.joliet.gov/government/departments/finance/purchasing/bids-proposals.The potential vendor/contractor remains responsible for obtaining all addenda to the original specification, so they should check the specific bid page before submitting a bid to make sure they have received all addendums to a specific contract.

Bidders are also required to comply with the President's Executive Order No. 11246, as amended. The requirements for Bidders and Contractors under this order are explained in 41 CFR 60-4. The City of Joliet Local Bidders Ordinance does not apply to this contract.

Those desiring to bid may examine the bid documents and detailed specifications in the City of Joliet Purchasing Division, 150 W. Jefferson St., Joliet, IL 60432 between the hours of 8:00 AM and 4:30 PM, Monday through Friday. Electronic copies can be downloaded free of charge at https://www.joliet.gov/government/departments/finance/purchasing/bids-proposals.

Contractor(s) shall pay prevailing wages at rates not less than those under Davis-Bacon Wage Act Provisions as determined by U.S. Department of Labor to all laborers, workmen and mechanics performing work under this contract. The Contract shall also be subject to the provisions of the *Prevailing Wage Act* (820 ILCS 130/1 et seq.) to the extent required by law.

Bidders are required to be pre-qualified through the Illinois Department of Transportation (012 – Drainage) or the Capital Development Board. Current proof of prequalification must be provided to the City in one of the following ways: 1) email a copy of current proof of prequalification to lschuld@baxterwoodman.com prior to the bid opening; or 2) submit copy of current proof of

prequalification with the Bid. Bid submissions received from firms that do not have proof of prequalification will be returned to the bidder.

If at the time the Agreement for this Project is executed, or if during the term of the Agreement, there is excessive unemployment in Illinois as defined in the Employment of Illinois Workers on Public Works Act, 30 ILCS 570/0.01 et seq., as two consecutive months of unemployment exceeding 5%, the Bidder agrees to employ Illinois laborers in accordance with the "Employment of Illinois Workers on Public Works Act". An "Illinois laborer" is defined as any person who has resided in Illinois for at least thirty (30) days and intends to become or remain an Illinois resident.

All proposals are subject to the requirements of the City of Joliet Procurement Code (Section 2-430 – 2-453) of the Bidder Instructions.

All Bids must be accompanied by a Bidder's bond, certified check, bank cashier's check or bank draft payable to the City of Joliet for ten percent 10% of the total amount of the Bid as provided in the Bidder Instructions.

A **mandatory** Pre-Bid Conference of all prospective Bidders and/or their representatives will be held on **February 13, 2025** at 10:00 A.M. at the City of Joliet East Side WWTP, 815 Adler Street, Joliet, Illinois 60436. Bidders are **required** to attend and participate in the conference.

Direct all questions about the meaning or intent of the Bidding Documents to the Engineer Peter Kozak (pkozak@baxterwoodman.com).

4. Rejection of Bids. The City of Joliet reserves the right to reject any or all Bids, parts of any and all bids, and to waive technical errors or omissions in bids. Unless the Bids are rejected for good cause, award of contract shall be made to the lowest responsible and responsive Bidder.

Electronic Download Free

Published in the Herald News, January 31, 2025

Beth Beatty, City Manager

Kevin Sing, Finance Director

END OF ADVERTISEMENT FOR BIDS

BIDDER INSTRUCTIONS

1. DEFINED TERMS

1.01 Terms used in these Bidder Instructions which are defined in the “Standard General Conditions of the Construction Contract” (EJCDC No. C-700, 2007 edition) have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term "Successful Bidder" means the lowest, qualified, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award. The term "Bidding Documents" includes the Advertisement for Bids, Bidder Instructions, the Bid Form, all submittals listed in 00 43 93.41 Bid Submittal Checklist, and the proposed Contract Documents, including all Addenda issued prior to receipt of Bids.

2. COPIES OF BIDDING DOCUMENTS

2.01 Complete sets of the Bidding Documents stated in the Bidder Instructions may be obtained from Office of the City Clerk, City of Joliet Municipal Building, 150 West Jefferson Street, Joliet, Illinois 60432 in accordance with the Advertisement for Bids.

2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.03 Owner and Engineer in making copies of Bidding Documents available do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

3.01 To demonstrate qualifications to perform the Work for the City of Joliet, each Bidder must be prequalified to complete work for the City of Joliet. The Bidder/Contractor will be considered prequalified in one or more of two ways as stated in 00 11 13 Advertisement for Bids:

1) Being prequalified with the Illinois Department of Transportation (012 – Drainage);
2) Being prequalified with the State of Illinois Capital Development Board.

Current proof of prequalification must be provided to the City in one of the following ways: 1) email a copy of current proof of prequalification to lschuld@baxterwoodman.com prior to the bid opening; or 2) submit copy of current proof of prequalification with the Bid. Bid submissions received from firms that do not have proof of prequalification will be returned to the bidder.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

4.01 It is the responsibility of each Bidder before submitting a Bid to: (a) examine the Contract Documents thoroughly; (b) visit the site to become familiar with local conditions that may affect cost, progress, performance, or furnishing of the Work; (c) consider federal, state and local Laws and Regulations that may affect cost, progress, performance of furnishing of the Work; (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.

4.02 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Facilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.02, 4.03 and 4.04 of the General Conditions.

4.03 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies, and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work, and which Bidder deems necessary to determine his Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.

4.04 On request in advance, Owner will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

4.05 The lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and other lands designated for use in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the Successful Bidder. Easements for structures or changes in existing structures are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

4.06 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception, the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

4.07 The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any person shall not affect the risks or obligations assumed by the Contractor or relieve him from fulfilling any of the conditions of the contract.

5. PRE-BID CONFERENCE

5.01 A **mandatory** Pre-Bid Conference will be held at the time and place given in the ADVERTISEMENT FOR BIDS. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are **required** to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considered necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

6. INTERPRETATIONS AND ADDENDA

6.01 Direct all questions about the meaning or intent of the Contract Documents to Engineer (Telephone **815.444.3394 or email pkozak@baxterwoodman.com**). Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addendum emailed by the Engineer or the Engineer's designated independent distributor to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than 72 hours prior to the Bid Opening might not be answered. Only questions answered by formal written Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect.

6.02 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

6.03 Addenda will be provided in an electronic format (.pdf format) via email. All Bidding Document holders should sign up for the RSS feeds at https://www.joliet.gov/government/departments/finance/purchasing/bids-proposals and provide first and last name and email address to automatically receive addendums. Addendums will also be posted on the City of Joliet's website at https://www.joliet.gov/government/departments/finance/purchasing/bids-proposals. All Bidding Document holders must provide a name, address, and e-mail address to receive electronic addenda and must reply to the e-mail to indicate receipt of the addenda.

7. BID SECURITY

7.01 Each Bid must be accompanied by Bid security made payable to Owner in an amount and in the form stated in the Advertisement for Bids.

7.02 The Bid securities of all except the three lowest responsive, responsible Bidders will be returned promptly after the Bids have been tabulated and checked. The Bid securities of the three lowest responsive, responsible Bidders will be returned as soon as the contract and bonds of the successful Bidder have been properly executed and approved.

8. CONTRACT TIMES

8.01 The number of days within which, or the dates by which, the Work is to be (a) Substantially Completed and (b) also completed and ready for final payment are set forth on the Bid Form.

9. LIQUIDATED DAMAGES

9.01 Provisions for liquidated damages, if any, are set forth in the Supplementary Conditions, Article 12.

10. SUBSTITUTE OR "OR EQUAL" ITEMS

10.01 The Contract, if awarded, will be based solely on the materials and equipment described in the Drawings and Specifications without consideration of possible substitute or "or equal" items.

11. SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.01 The apparent low Bidder, or any other Bidder so requested, shall submit to the office of Engineer within five (5) business days after the receipt of Bids, the following information on 00 43 36 Proposed Subcontractor Form:

A. A list of the names of Bidder's proposed Subcontractors whose portion of the Work exceeds $10,000, along with a description of the Work to be performed by each.

11.02 Bidder shall be required to perform with his own Work forces at least 30% of the Work, unless written consent to subcontract a greater percentage of the Work is obtained from Owner.

12. BID FORM

12.01 Only the Bid Forms attached hereto shall be used. Where required, the Bid price of each item shall be in writing and in figures; in case of conflict, the former shall apply.

12.02 Bidder, when signing the Bid, shall meet the following requirements:

A. The full name, telephone number, and business address of each Bidder must be entered on the Bid submitted. The Bid shall be signed in the space provided therefore by written signature of the person or persons properly authorized to sign it. All names must be typed or printed below the signature.

B. A Bid submitted by an individual shall be signed by Bidder or by an authorized agent.

C. Bids by partnerships must be executed in the partnership names and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

D. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The state of incorporation shall be shown below the signature. Such corporation must be licensed to do business in the state in which the Project is located before a Contract to do the Work

embraced in the Bid can be signed. If a foreign corporation, the state under which it is incorporated must be named.

E. Bids which are signed by an attorney-in-fact for individuals, firms, partnerships or joint ventures shall have attached thereto a power-of-attorney evidencing authority to sign the Bid.

12.03 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers and dates of which shall be filled in on the Bid Form.

12.04 It is the responsibility of the Bidder to submit a neat, accurate, and complete Bid.

13. BASIS OF BID; EVALUATION OF BIDS

13.01 Unit price:

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

B. The total of all estimated prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. The final quantities and Contract Price will be determined in accordance with paragraph 11.03 of the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

13.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.

14 SUBMISSION OF BIDS

14.01 Bids shall be submitted at the time and place indicated in the Advertisement for Bids and shall be sealed in an opaque envelope, marked with the Project title (and if applicable, the designated portion of the Project for which the Bid is submitted and acknowledgement of any addenda), name and address of the Bidder, and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope addressed to the Owner with the notation "BID ENCLOSED" on the face thereof. Any Bids received after the official Bid closure time will be returned to the Bidder unopened.

15 MODIFICATION AND WITHDRAWAL OF BID

15.01 Bids may be modified or withdrawn by notice to Owner at the place designated for receipt of Bids any time prior to opening of Bids. Such notice shall be in writing and signed by Bidder.

15.02 Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Bidder Instructions.

15.03 Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

15.04 After the Bid opening, no Bid may be modified, withdrawn or canceled by Bidder without consent of Owner.

16 OPENING OF BIDS

16.01 Bids will be publicly opened and read aloud. An abstract of the amounts of the base Bids and major alternates (if any) will be made available by Owner to Bidders after opening of Bids.

17 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

18 AWARD OF CONTRACT

18.01 Owner reserves the right to reject Bids, to waive informalities not involving price, time or changes in the Work, and to disregard all nonconforming, nonresponsive, unbalanced or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in Owner's best interest to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent criteria established by Owner.

18.02 In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, supplemental prices, and other data as may be requested in the Bid Form or prior to the Notice of Award.

18.03 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of the Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

18.04 Owner shall have the right to accept alternative in any order or combination, unless specifically otherwise provided.

18.05 A Bid which has not been prepared according to the instructions contained herein or which does not contain a unit price which is both adequate and reasonable for each and every item named in the Bid may be considered irregular and subject to rejection. Unbalanced Bids which cannot be resolved by mathematical correction without resorting to information not contained in the Bid, are subject to rejection.

18.06 If the Contract is to be awarded, it will be awarded to the lowest responsive, responsible Bidder.

18.07 If the Contract is awarded, Owner will give Successful Bidder notification in writing at the earliest possible date.

19 CONTRACT SECURITY AND INSURANCE

19.01 Article 5 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance, Payment and other bonds, and insurance requirements. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required Performance Bond, Payment Bond, and Certificate of Insurance.

20 SIGNING OF AGREEMENT

20.01 When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the appropriate number of unsigned counterparts of the Agreement with all other Contract Documents attached. Within ten (10) days after the date of the Notice of Award, the Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner or Engineer, as so directed, with the required bonds and insurance certificate(s). Within ten (10) days thereafter, Owner will deliver fully signed counterparts to Engineer for further distribution to Contractor.

20.02 Failure on the part of the Successful Bidder to execute the Agreement and provide acceptable bonds and insurance certificate(s) within ten (10) days after the date the contract was mailed or otherwise delivered to him, will be just cause for the annulment of the award and the forfeiture of the Bid security to Owner, not as a penalty but in payment of liquidated damages sustained as a result of such failure. If Owner fails to execute the Agreement within a reasonable time, not to exceed ninety (90) days after receiving the executed Agreement and acceptable bonds from the Successful Bidder, the Successful Bidder shall have the right to withdraw his proposal without forfeiture of his Bid security.

21 SALES AND USE TAXES

21.01 Owner is exempt from Illinois State sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid.

22 WAGE RATE REQUIREMENTS

22.01 No less than the prevailing rate of wages under the Davis-Bacon Wage Act (40 USC 276a through 276a-5) as determined by the U.S. Department of Labor shall be paid to all laborers, workmen and mechanics performing work under this contract. Contractor and all Subcontractors engaged in any part of the Project will be required to comply with the Davis-Bacon Wage Act requirements and the cost of doing so must be included in the Bid as no extra payment on account of this provision of law will be allowed.

22.02 If the Department of Labor revises prevailing wage rates, the revised prevailing wage rates on the Department of Labor's website (https://www2.illinois.gov/idol/Pages/default.aspx) shall apply to this contract and the Contractor will not be allowed additional compensation on account of said revisions. The Contractor shall review the wage rates applicable to the work of the contract at regular intervals to ensure timely payment of current wage rates. The Contractor agrees no additional notice is required. The Contractor shall be responsible for notifying each subcontractor of the wage rates set forth in this contract and any revisions thereto.

22.03 Provide certified weekly payroll records to the Department of Labor or other agencies as required, and to the Owner if requested, on a weekly basis to demonstrate compliance.

23 STATE OF ILLINOIS DRUG FREE WORKPLACE CERTIFICATION

23.01 The Drug Free Workplace Act (Illinois Compiled Statutes Chapter 30-580) requires that no Contractor be considered for the purposes of being awarded a contract for the procurement of any property or services from the State unless that Contractor has certified to the State that the Contractor will provide a drug free workplace.

23.02 For the purpose of this certification, "Contractor" means a corporation, partnership, or other entity with twenty-five (25) or more employees at the time of issuing the grant, or a department, division, or other unit thereof, directly responsible for the specific performance under a contract of $5,000 or more from the State.

23.03 Provide a signed certification of Drug Free Workplace Act compliance (Certificate 00 62 03) with the Bid.

24 STEEL PRODUCTS PROCUREMENT

24.01 Comply with the provisions of the Illinois Steel Products Procurement Act (30 ILCS 565/).

25 SUBSTANCE ABUSE PREVENTION PROGRAM

25.01 Illinois P. A. 095-0635, Substance Abuse Prevention on Public Works Projects Act requires that all Contractors and Subcontractors have a written Substance Abuse Prevention Program, or collective bargaining agreement, in effect that includes a Substance Abuse Prevention Program. Submit a copy of the Substance Abuse Prevention Program or collective bargaining agreement with the governing body, along with a cover letter certifying that their program meets the requirements of the Act, or, as an alternative, use Certificate 00 62 07 from these Specifications. This requirement applies to Contractors and Subcontractors.

25.02 Provide all necessary documentation at the time of the preconstruction meeting.

26 EMPLOYMENT OF ILLINOIS WORKERS

26.01 Comply with the provisions of the Employment of Illinois Workers on Public Works Act (30 ILCS 570/) as they may apply to this project.

26.02 If at the time the Agreement for this Project is executed, or if during the term of the Agreement, there is excessive unemployment in Illinois as defined in the Employment of Illinois Workers on Public Works Act, 30 ILCS 570/0.01 et seq., as two consecutive months of unemployment exceeding 5%, the Bidder agrees to employ Illinois laborers in accordance with the "Employment of Illinois Workers on Public Works Act". An "Illinois laborer" is defined as any person who has resided in Illinois for at least thirty (30) days and intends to become or remain an Illinois resident.

26.03 Provide signed certification of compliance (Certificate 00 62 08) with the bid.

27 UNCONTAMINATED SOIL CERTIFICATION AND DISPOSAL

27.01 Comply with the requirement of Sections 22.51(f)(2)(B) and 22.51a(d)(2)(B) of the Illinois Environmental Protection Act ([415 ILCS5/22.51(f)26(B)] and [415 ILCS5/22.51a(d)(2)(B)]) for the disposal of uncontaminated soils including uncontaminated soil mixed with other clean construction or demolition debris (CCDD) materials.

28 AUDIT AND ACCESS TO RECORDS

28.01 Any contract entered into by the loan recipient and any sub-agreement thereunder shall provide that representatives of the Agency will have access to the work whenever it is in preparation or progress and that the Contractor or Subcontractor will provide proper facilities for such access and inspection. Such contract or sub-agreement must also provide that the Agency or any authorized representative shall have access to any books, documents, papers, and records of the Contractor or Subcontractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcriptions thereof.

29 DISCRIMINATION

29.01 Bidder shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.

30 PUBLIC WATER SUPPLY LOAN PROGRAM DOCUMENTS

30.01 The following documents attached to this Section describe the requirements of the loan program:

- Affirmative Action for Equal Employment Opportunity (E.O. 11246)
- USEPA Certification of Nonsegregated Facilities (Certificate 00 74 23.05)
- Nondiscrimination in Employment Form (Certificate 00 74 23.06)
- USEPA Certification Regarding Debarment, Suspension, and Other Responsibility Matters (Certificate 00 74 23.07)
- Construction Contracts of Loan Recipient and Other Sections from “Procedures For Issuing Loans From the Public Water Supply Loan Program” (Section 00 21 00.41, Pages 22 to 25)
- Disadvantaged Business Enterprise Participation Specifications (Section 00 21 00.41, Pages 26 to 29)
- Davis-Bacon Wage Act Compliance Guidance
- Use of American Iron and Steel
- Illinois Works Jobs Program Act - Apprenticeship Initiative Information for Contractors

31 WATER INFRASTRUCTURE FINANCE AND INNOVATION ACT (WIFIA)

31.01 The goods and services under this Contract are being completed with funding made available by the United States Environmental Protection Agency (EPA) WIFIA program. The Contractor is required to comply with all applicable WIFIA statutes and regulations and any additional terms and conditions imposed by EPA in connection with WIFIA funding for the Project.

31.02 EPA provided compliance language “WIFIA Specification Package and Bid Contract Language” is included as Appendix A and is part of the Contract Documents. Compliance with all provisions of the WIFIA requirements is required. Some requirements will be met by following requirements in the General Conditions, and others are not applicable to the project.

NOTICE OF REQUIREMENT FOR
AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246)

1. The 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 Bidder's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for Minority Participation for Each Trade	Goals for Female Participation in Each Trade
	20.9%	6.9%

These goals are applicable to all the Bidder's construction work (whether or not it is federal or federally assisted) performed in the covered area.

The Bidder's compliance with the 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 specifications set forth in 41 CFR 60-4.3(a), 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 Bidder shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Bidder's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Bidder shall provide written notification to the director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this notice, and in the contract resulting from this solicitation, the "covered area" is the City of Joliet, Will County, in the State of Illinois.

60-4.1 Scope and Application.

This part applies to all contractors and subcontractors that hold any Federal or federally assisted construction contract in excess of $10,000. The regulations in this part are applicable to all of a construction contractor's or subcontractor's construction employees who are engaged in on site construction including those construction employees who work on a non-Federal or non-federally assisted construction site. This part also establishes procedures, which all Federal contracting officers and all applicants, as applicable, shall follow in soliciting for and awarding Federal or federally assisted construction contracts. Procedures also are established which administering agencies shall follow in making any grant, contract, loan, insurance, or guarantee involving federally assisted construction which is not exempt from the requirements of Executive Order 11246, as amended. In addition, this part applies to construction work performed by construction contractors and subcontractors for Federal non-construction contractors and subcontractors if the construction work is necessary in whole or in part to the performance of a non-construction contract or subcontract.

[43 FR 49254, OCT. 20, 1978; 43 FR 51404, NOV. 3, 1978]

60-4.2 Solicitations.

(a) All Federal contracting officers and all applicants shall include the notice set forth in paragraph (d) of this section and the Standard Federal Equal Employment Opportunity Construction Contract Specifications set forth in § 60-4.3 of this part in all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of the part. Administering agencies shall require the inclusion of the notice set forth in paragraph (d) of this section and the specifications set forth in § 60-4.3 of this part as a condition of any grant, contract, subcontract, loan, insurance or guarantee involving federally assisted construction covered by this Part 60-4.

(b) All non-construction contractors covered by Executive Order 11246 and the implementing regulations shall include the notice in paragraph (d) of this section in all construction agreements, which are necessary in whole or in part to the performance of the covered non-construction contract.

(c) Contracting officers, applicants and non-construction contractors shall given written notice to the Director within 10 working days of award of a contract subject to these provisions. The notification shall include the name, address and telephone number of the contractor; employer identification number; dollar amount of the contract, estimated starting and completion dates of the contract; the contract number; and geographical area in which the contract is to be performed.

(d) The following notice shall be included in, and shall be a part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action To Ensure Equal Employment Opportunity (Executive Order 11246)

1. The Offeror or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment 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:

Timetables	Goals for minority participation for each trade	Goals for female participation in each trade
	20.9%	6.9%

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 non-federally involved construction.

The Contractor's compliance with the 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 specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. 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 or 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. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the “covered area” is the City of Joliet, Will County, in the State of Illinois.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978, AS AMENDED AT 45 FR 65977, OCT. 3, 1980]

60-4.3 Equal Opportunity Clauses.

(a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all non-construction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to § 60-4.6 of this part and in construction subcontracts in excess of $10,000 necessary in whole or in part to the performance of non-construction Federal contracts and subcontracts covered under the Executive order.

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 origin);

(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 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 either 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 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 7 a 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 in meeting 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, nor the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, the Contractor must employ such apprentices and trainees 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 compiled 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 or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests 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 work force.

k. Validate all tests and other selection requirements where 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, makes 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 an 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 Contractor 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 goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or 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 these 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 such 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 carried out, to submit reports relating to the 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 trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in 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 different standards of compliance or upon the application of 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).

(a) The notice set forth in 41 CFR 60-4.2 and the specifications set forth in 41 CFR 60-4.3 replace the New Form for Federal Equal Employment Opportunity Bid Conditions for Federal and Federally Assisted Construction published at 41 FR 32482 and commonly known as the Model Federal EEO Bid Conditions, and the New Form shall not be used after the regulations in 41 CFR Part 60-4 become effective.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978, AS AMENDED AT 45 FR 65978, OCT. 3, 1980]

60-4.4 Affirmative Action Requirements.

(a) To implement the affirmative action requirements of Executive Order 11246 in the construction industry, the Office of Federal Contract Compliance Programs previously has approved affirmative action programs commonly referred to as “Hometown Plans”, has promulgated affirmative action plans referred to as "Imposed Plans" and has approved “Special Bid Conditions” for high impact projects constructed in areas not covered by a Hometown or an Imposed Plan. All solicitations for construction contracts made after the effective date of the regulations in this part shall include the notice specified in § 60-4.2 of this part and the specifications in § 60-4.3 of this part in lieu of the Hometown and Imposed Plans including the Philadelphia Plan and Special Bid Conditions. Until the Director has issued an order pursuant to § 60-4.6 of this part establishing goals and timetables for minorities in the appropriate geographical areas or for a project covered by Special Bid Conditions, the goals and timetables for minorities to be inserted in the Notice required by 41 CFR 60-4.2 shall be the goals and timetables contained in the Hometown Plan, Imposed Plan or Special Bid Conditions presently covering the respective geographical area or project involved.

(b) Signatories to a Hometown Plan (including heavy highway affirmative action plans) shall have 45 days from the effective date of the regulations in this part to submit under such a Plan (for the director's approval) goals and timetables for women and to include female representation on the Hometown Plan Administrative Committee. Such goals for female representation shall be at least as high as the goals established for female representation in the notice issued pursuant to 41 CFR 60-4.6. Failure of the signatories, within the 45-day period, to include female representation and to submit goals for women or a new plan, as appropriate, shall result in an automatic termination of the Office of Federal Contract Compliance Program’s approval of the Hometown Plan. At any time the Office of Federal Contract Compliance Programs terminates or withdraws its approval of a Hometown Plan, or when the plan expires and another plan is not approved, the contractors signatory to the plan shall be covered automatically by the specifications set forth in § 60-4.3 of this part and by the goals and timetables established for that geographical area pursuant to § 60-4.6 of this part.

60-4.5 Hometown Plans

(a) A contractor participating, either individually or through an association, in an approved Hometown Plan (including heavy highway affirmative action plans) shall comply with its affirmative action obligations under Executive Order 11246 by complying with its obligations under the plan: *Provided,* That each contractor or subcontractor participating in an approved plan is individually required to comply with the equal opportunity clause set forth in 41 CFR 60-1.4; to make a good faith effort to achieve the goals for each trade participating in the plan in which it has employees; and that the overall good 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's goals and timetables. If a contractor is not participating in an approved Hometown Plan it shall comply with the specifications set forth in § 60-4.3 of this part and with the goals and timetables for the appropriate area as listed in the notice required by 41 CFR 60-4.2 with regard to that trade. For the purposes of this part 60-4, a contractor is not participating in a Hometown Plan for a particular trade if it:

(1) Ceases to be signatory to a Hometown Plan covering that trade;

(2) Is signatory to a Hometown Plan for that trade but is not party to a collective bargaining agreement for that trade;

(3) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with labor organizations, which are not or cease to be signatories to the same Hometown Plan for that trade;

(4) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with a labor organization for that trade but the two have not jointly executed a specific commitment to minority and female goals and timetables and incorporated the commitment in the Hometown Plan for that trade;

(5) Is participating in a Hometown Plan for that trade which is no longer acceptable to the Office of Federal Contract Compliance Programs;

(6) Is signatory to a Hometown Plan for that trade but is party to a collective bargaining agreement with a labor organization for that trade and the labor organization and the contractor have failed to make a good faith effort to comply with their obligations under the Hometown Plan for that trade.

(b) Contractors participating in Hometown Plans must be able to demonstrate their participation and document their compliance with the provision of the Hometown Plan.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978]

60-4.6 Goals and Timetables.

The Director, from time to time, shall issue goals and timetables for minority and female utilization, which shall be based on appropriate workforce, demographic, or other relevant data and which shall cover construction projects or construction contracts performed in specific geographical areas. The goals, which shall be applicable to each construction trade in a covered contractor's or subcontractor's entire workforce which is working in the area covered by the goals and timetables, shall be published as notices in the Federal Register, and shall be inserted by the contracting officers and applicants, as applicable, in the Notice required by 41 CFR 60-4.2. 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.

[45 FR 65978, OCT. 3, 1980]

60-4.7 Effect on Other Regulations.

The regulations in this part are in addition to the regulations contained in this chapter, which apply to construction contractors and subcontractors generally. See particularly, 41 CFR 60-1.4 (a), (b), (c), (d), and (e); 60-1.5; 60-1.7; 60-1.8; 60-1.26; 60-1.29; 60-1.30; 60-1.32; 60-1.41; 60-1.42; 60-1.43; and 41 CFR Part 60-3; Part 60-20; Part 60-30; Part 60-40; and Part 60-50.

60-4.8 Show Cause Notice.

If an investigation or compliance review reveals that a construction contractor or subcontractor has violated the Executive order, any contract clause, specifications or the regulations in this chapter and if administrative enforcement is contemplated, the Director shall issue to the contractor or subcontractor a notice to show cause which shall contain the items specified in paragraphs (i) through (iv) of 41 CFR 60-2.2(c)(1). If the contractor does not show good cause within 30 days, or in the alternative, fails to enter an acceptable conciliation agreement which includes where appropriate, make up goals and timetables, back pay, and seniority relief for affected class members, the OFCCP shall follow the procedure in 41 CFR 60-1.26(b): *Provided,* That where a conciliation agreement has been violated, no show cause notice is required prior to the initiation of enforcement proceedings.

[43 FR 49254, OCT. 20, 1978; 43 FR 51401, NOV. 3, 1978]

60-4.9 Incorporation by Operation of the Order.

By operation of the order, the equal opportunity clause contained in § 60-1.4, the Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) contained in § 60-4.2, and the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) contained in § 60-4.3 shall be deemed to be a part of every solicitation or of every contract and subcontract, as appropriate, required by the order and the regulations in this chapter to include such clauses whether or not they are physically incorporated in such solicitation or contract and whether or not the contract is written.

Construction Contracts of Loan Recipient and Other Sections From

"Procedures For Issuing Loans From the Public Water Supply Loan Program"

Section 662.420(b)(2) Negotiations of Contract Amendments (Change Orders)

A) When the loan recipient authorizes the contractor to add, delete, or revise the work within the general scope of the contract documents, or authorizes an adjustment in the contract price or contract time, the loan recipient shall submit a change order to the Agency.

B) For each change order, the loan recipient shall submit to the Agency for approval the following documentation:

   i) one copy of the fully executed change order signed by the loan recipient, construction engineer, and the contractor; and
   ii) a description of any changes, with justification for the changes.

C) Prior approval by the Agency of a change order is required when a change order results in:

   i) alterations in design scope that require a modification to a construction permit; or
   ii) an increase in the amount of loan funds needed to complete the project.

D) Failure to give timely notice of proposed project changes or action by the loan recipient that is not consistent with the Agency's determination on those changes may result in disallowance of loan participation for costs incurred that are attributable to the change.

Section 662.620(f) Required Construction Contract Provisions

Each construction contract shall include the following provisions:

1) Audit; access to records:
   A) The contractor shall maintain books, records, documents and other evidence directly pertinent to performance on loan work consistent with generally accepted accounting principles. The contractor shall also maintain the financial information and data used by the contractor in the preparation or support of any cost submissions required under subsection (b) above, (Negotiation of Contract Amendments, Change Orders) and a copy of the cost summary submitted to the Owner. The Illinois Auditor General, the Owner, the Agency, or any of their duly authorized representatives shall have access to the books, records, documents, and other evidence for purposes of inspection, audit, examination, excerpts, transcriptions, and copying. The contractor shall provide facilities for access and inspection.

   B) For a formally advertised, competitively awarded, fixed price contract, the contractor shall include access to records as required by subsection (a)(1)(A) for all negotiated change orders and contract amendments in excess of $25,000 that affect the contract price. In the case of all other prime contracts, the contractor shall agree to include access to records required by subsection (a)(1)(A) in all contracts and all tier subcontracts or change orders in excess of $25,000 that are directly related to project performance.

C) Audits shall be in accordance with auditing standards generally accepted in the United States.

D) The contractor agrees to the disclosure of all information and reports resulting from access to records pursuant to subsection (a)(1)(A) above. When the audit concerns the contractor, the auditing agency shall afford the contractor an opportunity for an audit exit conference and an opportunity to comment on the pertinent portions of the draft audit report. The final audit report shall include the written comments, if any, of the audited parties.

E) The records required by subsection (a)(1)(A) above shall be maintained and made available during performance of the work under this loan agreement and for three years after the date of final loan audit. In addition, records that relate to any dispute or litigation or the settlement of claims arising out of any performance, costs or items to which an audit exception has been taken, shall be maintained and made available for three years after the date of resolution of such dispute, appeal, litigation, claim or exception.

F) The right of access will generally be exercised with respect to financial records under:
   i) Negotiated prime contractors;
   ii) Negotiated change orders or contract amendments in excess of $25,000 affecting the price of any formally advertised, competitively awarded, fixed price contract; and
   iii) Subcontracts or purchase orders under any contract other than a formally advertised, competitively awarded, fixed price contract.

G) The right of access will generally not be exercised with respect to a prime contract, subcontract, or purchase order awarded after effective price competition. In any event, the right of access shall be exercised under any type of contract or subcontract:
   i) With respect to records pertaining directly to contract performance, excluding any financial records of the contractor; and
   ii) If there is any indication that fraud, gross abuse, or corrupt practices may be involved in the award or performance of the contract or subcontract.

2) Covenant against contingent fees

The contractor shall warrant that no person or selling agency has been employed or retained to solicit or secure the contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee. For breach or violation of this warranty, the Owner shall have the right to annul the contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

3) Wage provisions

The Contractor shall pay prevailing wages in accordance with the Davis-Bacon Act (40 USC 3141 through 3148) as defined by the U.S. Department of Labor.

4) Disadvantaged business enterprise requirements.

   The contractor shall provide evidence that the contractor has taken affirmative steps in accordance with 40 CFR 33 to assure that disadvantaged business enterprises are used when possible as sources of supplies, equipment, construction, and services, consistent with the provisions of the Agency's Operating Agreement with USEPA.

5) Debarment and suspension provisions.

   The contract shall require the successful bidders to submit a Certificate Regarding Debarment, Suspension and Other Responsibility Matters (EPA Form 5700-49) showing compliance with federal Executive Order 12549.

6) Nonsegregated facilities provisions

   The contractor shall be required to submit a Certification of Nonsegregated Facilities on forms provided by the Agency.

7) American Iron and Steel

   The contractor shall be required to use American Iron and Steel, if required by USEPA for that fiscal year.

8) A clause that provides:

   "No contractor or subcontractor shall discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor or subcontractor shall carry out applicable requirements of 40 CFR 33 in the award and administration of contracts awarded under the PWSLP. Failure by the contractor or subcontractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies."

9) Illinois Works Jobs Program Act – Apprenticeship Initiative

   The contractor shall provide physical evidence, such as emails, letters, logs, records, etc. that will prove to the Lending Agency the contractor has taken affirmative steps to assure that apprentices are used when possible.

Section 662.620(g) Subcontracts under Construction Contracts

The award or execution of all subcontracts by a prime contractor and the procurement and negotiation procedures used by the prime contractor shall comply with:

1) All applicable provisions of Federal, State and local law;

2) All provisions of this Part 662 regarding fraud and other unlawful or corrupt practices;

3) All provisions of this Part 662 with respect to access to facilities, records and audit of records; and

4) All provisions of subsection 662.620(f)(5) that require a Certification Regarding Debarment, Suspension, and Other Responsibility Matters (EPA Form 5700-49) showing compliance with any controlling federal Executive Orders.

Section 662.620 (h) Contractor Bankruptcy

In the event of a contractor bankruptcy, the loan recipient shall notify the Agency and shall keep the Agency advised of any negotiations with the bonding company, including any proposed settlement. The Agency may participate in those negotiations and will advise the loan recipient of the impact of any proposed settlement to the loan agreement. The loan recipient shall be responsible for assuring that every appropriate procedure and incidental legal requirement is observed in advertising for bids and re-awarding a construction contract.

Section 662.620 (i) Access

Every contract entered into by the loan recipient for construction work, and every subagreement, shall provide Agency representatives with access to the work. The contractor or subcontractor shall provide facilities for access and inspection.

Section 662.640 (c) Remedies

All claims, counter-claims, disputes, and other matters in question between the recipient and the contractor arising out of, or relating to, a sub-agreement or its breach shall be decided by arbitration if the parties agree, or in a court of competent jurisdiction within the State.

City of Joliet Specification for Disadvantaged Business Enterprise Participation

I. Disadvantaged Business Enterprise Policy

A. It is the policy of the State of Illinois to award a fair share of sub-agreements to disadvantaged businesses. In complying with this requirement, Bidders or Offerors are required to take affirmative steps to assure that disadvantaged businesses are used when possible as sources of supplies, equipment, construction, and services as explained herein.

B. These specifications define the terms, conditions, and requirements of the State Revolving Fund Loan Program, and the City of Joliet policy and procedures for complying with these requirements.

C. As required by the award conditions of USEPA's Assistance Agreement with IEPA, the fair share percentages are 5% for MBEs and 12% for WBEs.

II. Pre-Contract Award Obligations

A. Bidders are required to advertise subcontracting opportunities and to negotiate with disadvantaged businesses prior to the day of the bid opening. Failure to document such affirmative efforts shall be deemed, relative to disadvantaged business compliance non-responsive.

B. To establish a bid as responsible, the Bidder will be required to document the proposed utilization of disadvantaged businesses with letters of intent signed by the bidder and by the disadvantaged business listed in the bid. The documentation requirements are outlined in Section III.

C. City of Joliet disadvantaged business policy clearly intends for Bidders to contact and encourage the participation of disadvantaged businesses prior to bid opening. Affirmative efforts (the written record of conscientious and honest communications between the bidder and disadvantaged business) must be initiated and completed by the bidder prior to bid opening. All bidders must document compliance with the requirements of the disadvantaged business policy.

III. Evaluation of Disadvantaged Business Utilization and Affirmative Efforts

A. As a prerequisite to demonstrate compliance with the City of Joliet disadvantaged business policy, ALL bidders shall provide the following with its bid:

1. Completed and signed certification from the bidder(s), attesting that the bidder will award no sub-agreements, including the procurement of equipment, materials, supplies and services, in the performance of this contract.

OR

1. "Certification of publication", or adequate proof of publication, including an actual copy of the newspaper advertisement from a daily newspaper. The advertisement must run one day at least (16) days prior to bid opening. An example advertisement follows this section.

Bidders may publish the advertisement in an established, online Bidder's clearinghouse such as the "Dodge Report (http://construction.com/dodge/)". If an online advertisement is placed with the "Dodge Report" or an equivalent website, a screenshot of the advertisement along with the webpage address, and a payment receipt is required as documentation. **The advertisement must run one day at least (16) days prior to bid opening.** See the "Suggested Disadvantaged Business (DBE) Advertisement for Construction Contractors", which can be found on page 29 of this Section.

2. List of all disadvantaged business enterprise (DBE) and non-DBEs that submitted proposals to the Bidder along with the date of the proposal. Names, addresses, phone number and/or e-mail are required. CERTIFICATE 00 74 23.03 DBE FORM #4 (BIDDER'S LIST) may be used for this purpose, but any list that contains the required information may be submitted. This list does not have to be submitted with the Bid. This list shall be submitted within five (5) business days after the receipt of Bids.

3. List of disadvantaged businesses not being utilized and justification for non-utilization (see CERTIFICATE 00 74 23.01 DBE FORM #1 (CONTRACTOR CERTIFICATION)).

4. If DBE subcontractors will be utilized for the project, a completed and signed copy of CERTIFICATE 00 74 23.02 DBE FORM #3 (SUBCONTRACTOR UTILIZATION) or equivalent "Notice of Intent" is needed from each DBE subcontractor.

5. If DBE subcontractors will be utilized for the project, a completed and signed certification from the Bidder(s), attesting that the Bidder has no controlling or dominating interest or conflict of interest with the disadvantaged business that will be utilized (Use CERTIFICATE 00 74 23.01 DBE FORM #1 (CONTRACTOR CERTIFICATION)).

6. In instances where the Bidder(s) does not receive any proposals from disadvantaged businesses prior to bid opening, the Bidder(s) must provide a written certification attesting that no proposals were received (Use CERTIFICATE 00 74 23.01 DBE FORM #1 (CONTRACTOR CERTIFICATION)).

Failure to submit the documentation pursuant to the requirements of A (1-7) above may cause rejection of the bid as non-responsive.

IV. Sanctions

A. The City of Joliet has the option to reject one or all bids where the information submitted by the bidder fails to demonstrate compliance with the disadvantaged business requirements (i.e., the bidder fails to place their pre-bid advertisement in a daily newspaper, or approved website, at least sixteen (16) days prior to the bid opening).

B. Upon finding that any Party has not complied with the requirements of these specifications, including misrepresenting a firm as a disadvantaged business, any one or a combination of the following actions may be taken.

1. Declare the bidder and/or subcontractor non-responsible and therefore ineligible for contract award.
2. Disallow all contract costs associated with non-compliance.
3. Refer any matter, which may be fraudulent to the Illinois Attorney General.

V. Post-Contract Award Compliance

A. As required by the award conditions of USEPA's Assistance Agreement with IEPA, all sub-agreements of the prime contractor must identify that the fair share percentages are 5% for MBEs and 12% for WBEs.

B. After award of the prime contract copies of all disadvantaged business related sub-agreements between the prime contractor and subcontractors shall be submitted to the Owner.

C. After bid submission, any changes in previously reported disadvantaged businesses utilization shall be handled in accordance with 40 CFR Part 33.302(b-h). If the contractor fails to initiate such actions, the Owner may withhold payments and/or institute other appropriate sanctions.

SUGGESTED DISADVANTAGED
BUSINESS ADVERTISEMENT FOR CONSTRUCTION CONTRACTORS*

NOTICE TO DISADVANTAGED BUSINESSES

_____, _____, _____, is
(Name of Company) (Address of Company) (Telephone)

seeking disadvantaged businesses for

the_____
(Name of Loan Recipient)

Project for subcontracting opportunities in the following areas:

_____, _____, _____.

All disadvantaged businesses should contact, in writing,

(certified letter, return receipt requested), _____, to discuss the
(Company Contact Person)

subcontracting opportunities. All negotiations must be completed prior to the bid opening

date _____.
(Date of Bid Opening)

- The advertisement must clearly state the method of evaluating the proposals or quotations, and the relative importance attached to each criterion. Bidders must uniformly and objectively evaluate the proposals submitted by disadvantaged businesses in response to the advertisement based upon the evaluation criteria stated in the advertisement. The evaluation criteria must not be restrictive or exclusionary.

I. Wage Rate Requirements Under Section 1606 of the American Recovery and Reinvestment Act For Subrecipients That Are Governmental Entities

The following terms and conditions specify how recipients will assist USEPA in meeting its Davis-Bacon (DB) responsibilities when DB applies to USEPA awards of financial assistance under the Recovery Act with respect to IEPA and subrecipients that are governmental entities. If a subrecipient has questions regarding when DB applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact IEPA for guidance. The subrecipient may also obtain additional guidance from DOL's web site at https://www.dol.gov/agencies/whd/government-contracts/construction.

1. Applicability of the Davis-Bacon (DB) prevailing wage requirements.

Davis-Bacon prevailing wage requirements apply to the construction, alteration, and repair activity of infrastructure, including all construction, alteration and repair activity involving waste water or drinking water treatment plants is subject to DB. If a subrecipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the subrecipient must discuss the situation with IEPA before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Subrecipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the subrecipient shall monitor https://sam.gov/content/wage-determinations on a weekly basis to ensure that the wage determination contained in the solicitation remains current. The subrecipient shall amend the solicitation of DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the subrecipient may request a finding from IEPA that there is not a reasonable time to notify interested contractors of the modification of the wage determination. IEPA will provide a report of its findings to the subrecipient.

(ii) If the subrecipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless IEPA, at the request of the subrecipient, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The subrecipient shall monitor https://sam.gov/content/wage-determinations on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the subrecipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a

solicitation, the subrecipient shall insert the appropriate DOL wage determination from https://sam.gov/content/wage-determinations into the ordering instrument.

(c) Subrecipient shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a subrecipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the subrecipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the subrecipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The subrecipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the **subrecipient** (s) shall insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional

classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipient(s) may obtain wage determinations from the U.S. Department of Labor's web site, https://sam.gov/content/wage-determinations.

(ii)(A) The **subrecipient**(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The EPA award official shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the **subrecipient**(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the **subrecipient**(s) to the State award official. The State award official will transmit the report, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the and the **subrecipient**(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the questions, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The **subrecipient** (s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the **subrecipient** , that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the **subrecipient** shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and

home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the **subrecipient** (s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the **subrecipient** (s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be

paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and **Subrecipient** (s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of $100,000.

(a) Contract Work Hours and Safety Standards Act. The **subrecipient** shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFF 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The **subrecipient,** upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the **Subrecipient** shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates

of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the **Subrecipient** shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the USEPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from USEPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient must conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors and subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient must spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S. Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Items (b) and (c) above.

(e) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the USEPA DB contact listed above and to the appropriated DOL Wage and Hour District Office listed at https://www.dol.gov/agencies/whd/contact/local-offices.

Use of American Iron and Steel

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term `iron and steel products' means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the `Administrator') finds that--

(1) applying subsection (a) would be inconsistent with the public interest;
(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act

ALL BIDDERS:

Provide signed **“Bidder Certification Regarding the Use of American Iron and Steel Products” (Certificate 00 62 33.13)** with the bid.

Illinois Works Jobs Program Act – Apprenticeship Initiative
Information for Contractors

Summary: The Illinois Works Jobs Program Act, 30 ILCS 559/Art. 20, is a statewide initiative to ensure that all Illinois residents have access to State capital projects, careers in the construction industry, and to provide contracting and employment opportunities to historically underrepresented populations in the construction industry. This will be accomplished through three programs created by the Illinois Works Jobs Program Act: the Illinois Works Apprenticeship Initiative, the Illinois Works Pre-Apprenticeship Program, and the Illinois Works Bid Credit Program. Additional information is available at the following website: https://www2.illinois.gov/dceo/WorkforceDevelopment/Pages/IllinoisWorksJobsProgramAct.aspx.

The goal of the Illinois Works Apprenticeship Initiative ("10% apprenticeship goal") is that for projects estimated to cost $500,000 or more, apprentices will perform either 10% of the total labor hours actually worked in each prevailing wage classification or 10% of the estimated labor hours in each prevailing wage classification, whichever is less. The 10% apprenticeship goal applies to projects being paid for in whole or in part by appropriated capital funds to construct a public work either through a contract or grant issued by a State agency. This requirement also applies to IEPA loans. The $500,000 threshold applies to the total project cost and NOT the total cost or value of an individual construction contract.

Certification: Apprentices are required to be US Dept. of Labor certified (not limited to pre-apprentice program graduates).

Applicability

If the project is estimated to received $500,000 or more of State Capital Funding:

If the state's contribution to the project amount equals 50% or more of the cost for the project, the 10% apprenticeship requirement applies to all prevailing wage eligible work performed by contractors on the public works project.

If the state's contribution to the project is less than 50% of the cost for the project, the 10% apprenticeship requirement applies only to prevailing wage eligible work being funded from state funds.

If the project has less than $500,000 of State Capital Funding, but the total estimated cost is $500,000 or more:

If the state's contribution to the project amount equals 50% or more of the estimated cost for the project, the 10% apprenticeship requirement applies to all prevailing wage eligible work performed by contractors on the public works project.

If the state's contribution to the project is less than 50% of the estimated cost for the project, the 10% apprenticeship requirement does not apply.

If the Total Estimated Project Cost is less than $500,000: The 10% apprenticeship requirement does not apply. The $500,000 threshold applies to the total project cost and NOT the total cost or value of an individual construction contract.

Waivers from the Requirements: If goals cannot be met, the state has discretion to grant waivers, grant reductions, or to hold public hearings on the issue. Factors to be considered include the scale of the project and whether the contractor or subcontractor seeking the action has previously requested reductions or waivers. A waiver form is available on the IEPA website at:
https://www2.illinois.gov/epa/Documents/epa-forms/water/financial-assistance/apprenticeship/Waiver-Request.pdf.The form can also be obtained from DCEO.

If requesting a waiver, Contractor must provide documentation of good faith efforts to employ apprentices, including records of phone, email, and other correspondence sufficient to prove to the Lending Agency that the Contractor has taken affirmative steps to assure apprentices are used when possible.

Reporting: An example quarterly reporting form is attached. A fillable version is available on the IEPA website. Contractors should coordinate with the loan applicant and their consultant for further instructions regarding these forms. Loan applicants are ultimately responsible for reporting quarterly labor hours to the state, but coordination with their contractor is essential. All loan funded projects are subject to payment of Davis Bacon wages.

For general program questions, please contact the Illinois Works Office at: CEO.ILWorks@Illinois.gov.

END OF BIDDER INSTRUCTIONS

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CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD) - LPC 663

PART 1 - GENERAL

1.1 SUMMARY

A. This Section provides verification from a professional engineer that the soils within the work area do not contain contaminants in concentrations that pose a threat to human safety and the environment.

1.2 CERTIFICATION

A. Attached to this specification is a copy of IEPA form LPC-663, signed by the registered engineer for use by the contractor.

END OF SECTION

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SUBSURFACE DRILLING AND SAMPLING INFORMATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes soils investigation at the site, and use of data resulting from that investigation.

1.2 SOILS INVESTIGATION REPORT

A. General:
1. A soils investigation report has been prepared for the site of this Work by K & S Engineers, Inc.
2. Attached are copies of boring logs for thirteen (13) soil borings drilled at the locations as indicated on the Drawings.
3. Copies of the soils investigation report may be obtained from the Engineers, Baxter & Woodman, Inc., upon request.

B. Use of data:
1. The soil investigation report was obtained only for the Engineer's use in design and is not a part of the Contract Documents.
2. The geotechnical data is included for Bidders' information and represents only the subsurface conditions at the exact location of each boring, but is not a warranty of subsurface conditions. Interpretation of geotechnical data is the responsibility of the Bidders.
3. Bidders should visit the site and acquaint themselves with existing conditions.
4. Environmental testing was completed for boring #HP-2, and may be found in Appendix D."
5. Prior to bidding, Bidders may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but such investigations may be performed only under time schedules and arrangements approved in advance by the Engineer.
6. The technical data in the above report, upon which the Contractor may rely, consists of boring methods, level of subsurface water, boring logs, laboratory test methods and results, and boring locations all as of the date made.
7. Engineer accepts no responsibility for accuracy of the soil data or water level information. Soil information, included with these Contract Documents, was not obtained for the purposes of designing excavations and trenches. Soil information was used by Engineer for design purposes only. Contractor shall assure itself by personal examination as to subsurface conditions and shall provide its own investigations and make its own assumptions to comply with OSHA and any other applicable laws and regulations regarding excavation and trenching requirements.

END OF SUBSURFACE DRILLING AND SAMPLING INFORMATION

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BID FORM

ONE ORIGINAL BID SHALL BE SUBMITTED

To: City of Joliet
Mayor and City Council
150 W. Jefferson Street
Joliet, IL 60432
(hereinafter called Owner)

From: _____
Company

_____
Address

_____
City State Zip Code

(____) _____ _____
Telephone E-MAIL

(hereinafter called Bidder)

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to furnish all labor, materials, tools, and services required for the construction of the Heggie Park Phase 1 Water Main Improvements for the City of Joliet, Will County, Illinois (Engineers' Job No. 2325880.00), all in accordance with the Bidding Documents prepared by Baxter & Woodman, Inc., Consulting Engineers.

2. Bidder accepts all of the terms and conditions of the Advertisement for Bids and Bidder Instructions, including without limitation those dealing with the disposition of Bid Security. This Bid will remain open for 120 days after the date of Bid opening or for such longer period of time that Bidder may agree to in writing upon request of Owner. Bidder will sign and submit the Agreement with the Bonds and other documents required by the Bidding Documents within 10 days after the date of Owner's Notice of Award.

3. In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

   a. Bidder has examined copies of all the Bidding Documents.

b. Bidder is familiar with the nature and extent of the Bidding Documents, Work, site, locality, and all local conditions and legal and regulatory requirements that in any manner may affect cost, progress, performance, or furnishing of the Work, and has made such independent investigations as Bidder deems necessary.

c. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

d. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

e. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

f. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

g. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

h. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the Work for which this Bid is submitted.

i. This Bid is genuine and not made in the interest or on behalf of any undisclosed person, firm or corporation, and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or a corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

j. Bidder is not barred from contracting with the Owner as a result of a violation 720 ILCS 5/33 et seq.

k. Bidder agrees that no less than the prevailing rate of wages under the Davis-Bacon Wage Act (40 USC 276a through 276a-5) as determined by the U.S. Department of Labor shall be paid to all laborers, workmen and mechanics performing work under this contract.

l. Bidder agrees to cooperate with all Davis-Bacon Wage Act compliance activities including employee interviews by Owner.

m. Bidder complies with the provisions of the Employment of Illinois Workers on Public Works Act (30 ILCS 570/) as they may apply to this Project.

n. Bidder will comply with the requirements of Sections 22.51(f)(2)(B) and 22.51a(d)(2)(B) of the Illinois Environmental Protection Act ([415 ILCS5/22.51(f)(2)(B)] and [415 ILCS5/22.51a(d)(2)(B)]) for the disposal of uncontaminated soils including uncontaminated soil mixed with other clean construction or demolition debris (CCDD) materials and has included any costs associated with compliance in the Bid.

4. Bidder submits the following Schedule of Unit Prices for the Work to be performed in accordance with the Bidding Documents and agrees that items of work not specifically mentioned in the Schedule which are necessary and required to complete the Work intended shall be done incidental to and as part of the items of work for which a unit price is given, and understands that no additional payment will be made for such incidental work.

Bidder agrees that the Owner may select any one or more Parts of this Bid, and if awarded the Contract for such Part or Parts of this Bid, the Bidder agrees to perform and complete the work at the Contract Unit Prices submitted herein.

SCHEDULE OF UNIT PRICES							
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST
				PART A	PART B	TOTAL	
1	TRAFFIC CONTROL AND PROTECTION (5% LIMIT)	LSUM	Lump Sum	1	0	1	$
2	GRANULAR TRENCH BACKFILL	CUYD	$	5,800	320	6,120	$
3	WATER MAIN (OPEN CUT), 4-INCH DI	FOOT	$	0	546	546	$
4	WATER MAIN (OPEN CUT), 6-INCH DI	FOOT	$	292	10	302	$
5	WATER MAIN (OPEN CUT), 8-INCH	FOOT	$	252	0	252	$
6	WATER MAIN (OPEN CUT), 8-INCH DI	FOOT	$	767	4	771	$
7	WATER MAIN (OPEN CUT), 10-INCH DI	FOOT	$	49	0	49	$
8	WATER MAIN (OPEN CUT), 12-INCH DI	FOOT	$	45	0	45	$

SCHEDULE OF UNIT PRICES							
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST
				PART A	PART B	TOTAL	
9	WATER MAIN (OPEN CUT), 16-INCH DI	FOOT	$	4,312	0	4,312	$
10	WATER MAIN (OPEN CUT), 24-INCH DI	FOOT	$	2,045	0	2,045	$
11	WATER MAIN (IN JACKED CASING), 16-INCH DI IN 36-INCH CASING	FOOT	$	140	0	140	$
12	WATER MAIN (IN BORED CASING), 16-INCH DI IN 36-INCH CASING	FOOT	$	336	0	336	$
13	CASING PIPE (OPEN CUT), 16-INCH	FOOT	$	95	0	95	$
14	CASING PIPE (OPEN CUT), 30-INCH	FOOT	$	85	0	85	$
15	CASING PIPE (OPEN CUT), 36-INCH	FOOT	$	60	0	60	$
16	MISCELLANEOUS FITTINGS	POUND	$	11,000	250	11,250	$
17	CONNECT TO WATER MAIN (NON-PRESSURE), 4-INCH	EACH	$	0	1	1	$
18	CONNECT TO WATER MAIN (NON-PRESSURE), 6-INCH	EACH	$	9	0	9	$
19	CONNECT TO WATER MAIN (NON-PRESSURE), 8-INCH	EACH	$	1	1	2	$
20	CONNECT TO WATER MAIN (NON-PRESSURE), 10-INCH	EACH	$	3	0	3	$
21	CONNECT TO WATER MAIN (NON-PRESSURE), 16-INCH	EACH	$	2	0	2	$
22	CONNECT TO WATER MAIN (NON-PRESSURE), 24-INCH	EACH	$	2	0	2	$
23	CONNECT TO WATER MAIN (PRESSURE), 6-INCH X 6-INCH	EACH	$	1	0	1	$
24	GATE VALVE, 4-INCH	EACH	$	0	2	2	$
25	GATE VALVE, 8-INCH	EACH	$	13	0	13	$
26	GATE VALVE, 12-INCH	EACH	$	1	0	1	$
27	BUTTERFLY VALVE, 16-INCH	EACH	$	11	0	11	$
28	BUTTERFLY VALVE, 24-INCH	EACH	$	6	0	6	$
29	VALVE BOX	EACH	$	5	1	6	$
30	VALVE VAULT, 4-FOOT DIAMETER	EACH	$	12	1	13	$
31	VALVE VAULT, 5-FOOT DIAMETER	EACH	$	13	0	13	$
32	VALVE VAULT, 6-FOOT DIAMETER	EACH	$	2	0	2	$

SCHEDULE OF UNIT PRICES							
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST
				PART A	PART B	TOTAL	
33	VALVE VAULT (SPECIAL), 8-FOOT X 12-FOOT	EACH	$	1	0	1	$
34	VALVE VAULT (ADDITIONAL DEPTH), 4-FOOT DIAMETER	VFT	$	2	0	2	$
35	VALVE VAULT (ADDITIONAL DEPTH), 5-FOOT DIAMETER	VFT	$	2	0	2	$
36	VALVE VAULT (ADDITIONAL DEPTH), 6-FOOT DIAMETER	VFT	$	2	0	2	$
37	FIRE HYDRANT	EACH	$	19	2	21	$
38	FIRE HYDRANT BARREL EXTENSION	VFT	$	2	0	2	$
39	LINE STOP, 4-INCH	EACH	$	0	1	1	$
40	LINE STOP, 6-INCH	EACH	$	1	0	1	$
41	LINE STOP, 8-INCH	EACH	$	1	1	2	$
42	LINE STOP, 10-INCH	EACH	$	2	0	2	$
43	LINE STOP, 16-INCH	EACH	$	1	0	1	$
44	FILLING OF EXISTING PIPE FOR ABANDONMENT	CUYD	$	30	0	30	$
45	ABANDONMENT OF EXISTING WATER MAINS AND APPURTENANCES	LSUM	Lump Sum	1	0	1	$
46	WATER SERVICE CONNECTION TO WATER MAIN AND CURB STOP, 1-INCH	EACH	$	46	8	54	$
47	WATER SERVICE CONNECTION TO WATER MAIN AND CURB STOP, 1.5-INCH	EACH	$	1	0	1	$
48	WATER SERVICE CONNECTION TO WATER MAIN AND CURB STOP, 2-INCH	EACH	$	2	0	2	$
49	WATER SERVICE LINE TYPE K - OPEN CUT, 1-INCH	FOOT	$	325	60	385	$
50	WATER SERVICE LINE TYPE K - OPEN CUT, 1.5-INCH	FOOT	$	25	0	25	$
51	WATER SERVICE LINE TYPE K - OPEN CUT, 2-INCH	FOOT	$	43	0	43	$
52	WATER SERVICE LINE TYPE K - DIRECTIONAL DRILLING, 1-INCH	FOOT	$	1,035	340	1,375	$
53	WATER SERVICE LINE TYPE K - DIRECTIONAL DRILLING, 1.5-INCH	FOOT	$	35	0	35	$
54	WATER SERVICE LINE TYPE K - DIRECTIONAL DRILLING, 2-INCH	FOOT	$	35	0	35	$
55	WATER SERVICE CASING PIPE	FOOT	$	170	0	170	$

SCHEDULE OF UNIT PRICES								
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST	
				PART A	PART B	TOTAL		
56	PROJECT MANAGEMENT	HOUR	$	18	18	36	$	
57	WATER SERVICE LINE TYPE L, 3/4-INCH	FOOT	$	25	10	35	$	
58	WATER SERVICE LINE TYPE L, 1-INCH	FOOT	$	50	60	110	$	
59	WATER SERVICE LINE TYPE L, 1.5-INCH	FOOT	$	25	10	35	$	
60	WATER SERVICE LINE TYPE L, 2-INCH	FOOT	$	25	10	35	$	
61	WATER SERVICE CONNECTION ON PRIVATE PROPERTY - BASEMENT OR CRAWL SPACE	EACH	$	3	3	6	$	
62	WATER SERVICE CONNECTION ON PRIVATE PROPERTY - SLAB	EACH	$	3	3	6	$	
63	UTILITY LOCATION - PRIVATE PROPERTY	EACH	$	6	6	12	$	
64	WATER METER RELOCATION	EACH	$	3	3	6	$	
65	WATER METER REPLACEMENT	EACH	$	3	3	6	$	
66	LANDSCAPING PROJECT MANAGEMENT	HOUR	$	12	18	30	$	
67	LANDSCAPING RESTORATION ALLOWANCE	EACH	$450	6	6	12	$	2,700.00
68	SHRUB AND BRUSH DISPOSAL	EACH	$	12	12	24	$	
69	CRIMP WATER SERVICE	EACH	$	0	6	6	$	
70	CLEARING	LSUM	Lump Sum	1	0	1	$	
71	REMOVE AND REPLACE DRAIN TILES, 6-INCH THROUGH 12-INCH	FOOT	$	180	0	180	$	
72	ADJUSTING SANITARY SEWER SERVICE LINE	EACH	$	24	0	24	$	
73	SANITARY SEWER REMOVAL AND REPLACEMENT, 8-INCH	FOOT	$	107	0	107	$	
74	SANITARY SEWER REMOVAL AND REPLACEMENT, 12-INCH	FOOT	$	55	0	55	$	
75	SANITARY SEWER, 12-INCH D3034 PVC	FOOT	$	330	0	330	$	
76	TYPE A SANITARY MANHOLE, 4' DIA., 0 TO 8 FEET DEEP	EACH	$	3	0	3	$	
77	TYPE A SANITARY MANHOLE, 4' DIA., 8 TO 12 FEET DEEP	EACH	$	1	0	1	$	
78	STORM SEWER REMOVAL AND REPLACEMENT, 10-INCH	FOOT	$	10	0	10	$	

SCHEDULE OF UNIT PRICES							
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST
				PART A	PART B	TOTAL	
79	STORM SEWER REMOVAL AND REPLACEMENT, 12-INCH	FOOT	$	5	0	5	$
80	EXPLORATORY EXCAVATION	EACH	$	16	0	16	$
81	INLET PROTECTION FILTER	EACH	$	40	2	42	$
82	RESTORATION OF LAWNS AND PARKWAYS	SQYD	$	6,000	300	6,300	$
83	SLOPE RESTORATION, IDOT CLASS 3 SEED	SQYD	$	1,724	0	1,724	$
84	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQYD	$	2,001	0	2,001	$
85	TEMPORARY HOT-MIX ASPHALT PAVEMENT	SQYD	$	850	0	850	$
86	HOT-MIX ASPHALT REMOVAL AND REPLACEMENT, 7-INCH BINDER 2-INCH SURFACE	SQYD	$	900	0	900	$
87	HOT-MIX ASPHALT REMOVAL AND REPLACEMENT, 4-INCH BINDER 2-INCH SURFACE	SQYD	$	2,200	0	2,200	$
88	HOT-MIX ASPHALT REMOVAL AND REPLACEMENT, 2.5-INCH BINDER 1.5-INCH SURFACE	SQYD	$	2,000	300	2,300	$
89	HOT-MIX ASPHALT SURFACE MILL AND OVERLAY OVER PATCHES, 1.5-INCH	SQYD	$	1,210	380	1,590	$
90	HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT, 3-INCH	SQYD	$	300	0	300	$
91	PCC DRIVEWAY REMOVAL AND REPLACEMENT, 6-INCH	SQYD	$	50	50	100	$
92	GRAVEL DRIVEWAY REMOVAL AND REPLACEMENT	SQYD	$	350	0	350	$
93	CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	$	1,750	50	1,800	$
94	PCC SIDEWALK REMOVAL AND REPLACEMENT	SQFT	$	500	200	700	$
95	DETECTABLE WARNINGS	SQFT	$	40	0	40	$
96	PAVEMENT MARKING - LINE, 4-INCH (THERMOPLASTIC)	FOOT	$	620	0	620	$
97	PAVEMENT MARKING - LINE, 6-INCH (THERMOPLASTIC)	FOOT	$	960	0	960	$
98	PAVEMENT MARKING - LINE, 24-INCH (THERMOPLASTIC)	FOOT	$	230	0	230	$
99	PAVEMENT MARKING - LETTERS AND SYMBOLS	SQFT	$	70	0	70	$

SCHEDULE OF UNIT PRICES							
NO.	PAY ITEM	UNIT	UNIT PRICE	QUANTITY			TOTAL COST
				PART A	PART B	TOTAL	
100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	$	10	0	10	$
101	REMOVAL AND REPLACEMENT OF SIGNS	EACH	$	19	0	19	$
102	FENCE TO BE REMOVED AND RE-ERECTED	FOOT	$	50	10	60	$
103	TREE ROOT PRUNING	EACH	$	3	3	6	$
104	TREE TRIMMING	LSUM	Lump Sum	1	0	1	$
105	REMOVE AND REPLACE GUARDRAIL	FOOT	$	89	0	89	$
106	DUST CONTROL	DAY	$	60	0	60	$
107	ROCK EXCAVATION	CUYD	$	1,250	200	1,450	$
108	REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL	CUYD	$	89	7	96	$
109	SOIL TESTS FOR CONTAMINANTS	EACH	$	13	3	16	$
110	CONTAMINATED WASTE DISPOSAL	CUYD	$	89	16	105	$
111	RAILROAD CROSSING COORDINATION AND MOBILIZATION	LSUM	Lump Sum	1	0	1	$
TOTAL (PARTS A AND B):				$			

5. Bidder agrees the Work shall be completed based on the interim milestones specified in Section 01 31 13.16. Bidder agrees the Work will be substantially completed within 180 calendar days after the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 1.11 of the Supplementary Conditions within 210 calendar days after the Contract Time commences to run. The estimated Notice to Proceed date is April 1, 2025.

    a. Bidder accepts the provisions of the Supplementary Conditions as to liquidated damages in the event of failure to complete the Work on time.

6. Bidder submits the required Bid Security in the form of (Certified Check or Bid Bond) in the amount of _____ or _____ Percent of the Bid Amount.

7. Bidder will be obtaining Performance and Payment Bonds through the following local agent or broker:

   Name: _____

   Address: _____

   Telephone: _____ email: _____

8. Bidder submits all items listed in Section 00 43 93.41 – Bid Submittal Checklist.

9. Terms used in this Bid which are defined in the Standard General Conditions of the Construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

10. Bidder acknowledges receipt of the following Addenda:

Addendum Number	Date Received
_____	_____
_____	_____
_____	_____

11. Bidder certifies that all iron and steel products used in the project for the construction, alteration, maintenance, or repair of a public water system are produced in the United States in compliance with Section 608 of the Water Resources Reform and Development Act".

12. By submission of the Bid, Bidder certifies, and in the case of a Joint Bid each party thereto certifies as to his own organization, that in connection with the Bid:

    a. The prices in the Bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor.

    b. Unless otherwise required by law, the prices which have been quoted in the Bid have not knowingly been disclosed by the Bidder, prior to opening, directly, or indirectly to any other Bidder or to any competitor; and

    c. No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.

13. The person signing this Bid certifies that: (Check applicable box.)

    ☐ He/She is the person in the Bidder's organization responsible within that organization for the decision as to the prices being bid and that he/she has not participated, and will not participate, in any action contrary to that above; or

☐ He/She is not the person in the Bidder's organization responsible within that organization for the decision as to the prices being bid but that he/she has been authorized to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to that above, and as their agent shall so certify; and shall also certify that he/she has not participated, and will not participate, in any action contrary to that above.

14. Bidder is currently certified as an MBE or WBE under EPA's DBE program?
Yes ☐ No ☐

15. Bidder certifies that proof of current prequalification (Capital Development board or IDOT) defined in Section 00 11 13 has been submitted to the City: (check applicable box.)

☐ Current proof of prequalification was emailed to lschuld@baxterwoodman.com prior to the bid opening.

☐ Current proof of prequalification is enclosed with the Bid.

Respectfully submitted, signed, and sealed this _____ day of _____, 20__.

_____
Bidder

(SEAL)

By _____

_____
Name - Title

ATTEST:

_____

_____
Name - Title

END OF BID FORM

00 43 13
BID SECURITY FORM
(SAMPLE FORM)

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
_____ as Principal, and
_____as Surety, are hereby held and firmly bound unto _____as Owner in the penal sum of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20 _____.

The Condition of the above obligation is such that whereas the Principal has submitted to _____ a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

_____
_____
_____
_____

NOW, THEREFORE,

(a) If said BID shall be rejected, or

(b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the Owner may accept such bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

_____ (L.S.)
Principal

_____
Surety

By: _____

IMPORTANT-Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

00 43 36

PROPOSED SUBCONTRACTORS FORM

TO: City of Joliet
Mayor and City Council
150 W. Jefferson Street
Joliet, IL 60432
(hereinafter called Owner)

1. Pursuant to bidding requirements for the Work titled:

CITY OF JOLIET, ILLINOIS
HEGGIE PARK PHASE 1 WATER MAIN IMPROVEMENTS
CITY OF JOLIET CONTRACT NO. 2871-0325

for portions of the Work equaling or exceeding $10,000, Bidder proposes to use the following Subcontractors. Except as otherwise approved by Owner, Bidder proposes to perform all other portions of the Work with his own forces:

2. Portion of the Work:	Subcontractor name and address:
_____	_____
	_____
	_____
_____	_____
	_____
	_____
_____	_____
	_____
	_____
_____	_____
	_____
_____	_____
	_____

Portion of the Work:	Subcontractor name and address:

00 43 93.41

BID SUBMITTAL CHECKLIST

BIDDER submits the following documents with this Bid:

a. Form 00 41 00.41 “BID FORM”.

b. Required Bid Security (Certified Check or Bid Bond).

c. City of Joliet Affidavits.

d. CERTIFICATE 00 62 03 ILLINOIS DRUG FREE WORKPLACE ACT.

e. CERTIFICATE 00 62 04 ILLINOIS CONTRACTOR CERTIFICATION.

f. CERTIFICATE 00 62 05 ILLINOIS COMPLIANCE WITH SAFETY REQUIREMENTS.

g. CERTIFICATE 00 62 06 ILLINOIS TAX DELINQUENCY/DEFAULT.

h. CERTIFICATE 00 62 07 SUBSTANCE ABUSE PREVENTION PROGRAM.

i. CERTIFICATE 00 62 08 EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT.

j. CERTIFICATE 00 62 33.13 BIDDER CERTIFICATION REGARDING THE USE OF AMERICAN IRON AND STEEL PRODUCTS

k. CERTIFICATE 00 74 23.01 DBE FORM #1 (CONTRACTOR CERTIFICATION).

l. CERTIFICATE 00 74 23.02 DBE FORM #3 (SUBCONTRACTOR UTILIZATION).

m. CERTIFICATE 00 74 23.03 DBE FORM #4 (BIDDERS LIST).

n. CERTIFICATE 00 74 23.04 BIDDER CERTIFICATION IN COMPLIANCE WITH ARTICLE 33E-11 TO THE "CRIMINAL CODE OF 2012".

o. CERTIFICATE 00 74 23.05 USEPA CERTIFICATION OF NONSEGREGATED FACILITIES.

p. CERTIFICATE 00 74 23.07 USEPA CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS.

END OF BID SUBMITTAL CHECKLIST

00 51 05

NOTICE OF INTENT TO AWARD

To: _____

_____

_____

Project Description: _____

_____

_____

The OWNER has considered the BID submitted by you for the above described WORK, in response to its Advertisement for Bids, dated _____ and Bidder Instructions.

You are hereby notified that your BID will be accepted, contingent upon Illinois Environmental Protection Agency (IEPA) approval, for items in the amount of _____.

You will be required by the Bidder Instructions to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within ten (10) calendar days from the date of the final Notice to be sent upon IEPA approval, to you.

Dated this _____ day of _____.

_____
OWNER

By: _____

Title: _____

00 51 10

NOTICE OF AWARD

To: _____
_____
_____
_____

PROJECT Description: _____

_____

_____

The OWNER has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids dated _____, 20____ and Bidder Instructions.

You are hereby notified that your BID has been accepted for items in the amount of $_____.

You are required by the Bidder Instructions to execute the Agreement and furnish the required CONTRACTOR'S Performance BOND, Payment BOND and certificates of insurance within ten (10) calendar days from the date of this Notice to you.

If you fail to execute said Agreement and to furnish said BONDS within ten (10) days from the date of this Notice, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this _____ day of _____, 20_____.

_____
(Owner)

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged,

by _____

this the _____ day of _____, 20 _____.

By _____

Title _____

AGREEMENT

THIS AGREEMENT is entered into on the date stated below by and between the between the City of Joliet, an Illinois Municipal Corporation (hereinafter "City") and _____ (hereinafter "Contractor").

In consideration of the mutual promises of the parties set forth in the Contract Documents, the Contractor agrees to timely perform all work, furnish all labor and materials necessary for the proper completion of the work; and the City agrees to pay for the work as set forth in the Contract Documents. The Contractor further agrees to comply with the provisions of the Davis-Bacon Wage Act (40 USC 276a through 276a-5) as determined by the U.S. Department of Labor or the Illinois *Prevailing Wage Act* (820 ILCS 130/1 et seq.), whichever is greater.

The Contract Documents shall consist of the following documents which are hereby made part of this Agreement as if recited at length herein:

1) **Legal Notice to Bidders**
2) **Instructions to Bidders**
3) **General Conditions and Supplementary Conditions**
4) **Specifications and Drawings**
5) **Bid Form (consistent with Contract Documents)**
6) **Affidavits**
7) **Performance Bond and Payment Bonds**
8) **All IEPA forms, certificates, and documentation included in Division 00 of the Contract Documents not listed above as Items 1) through 7), inclusive.**
9) **Addenda**

IN WITNESS WHEREOF**,** the City and the Contractor, by their duly authorized representatives have hereunto set their hands this day _____.

CITY OF JOLIET,
an Illinois Municipal Corporation,

By:_____
Beth Beatty
City Manager

Attest:_____
Lauren O'Hara
City Clerk

Approved as to form:

_____
Todd Lenzie
Interim Corporation Counsel

Print name of Contractor_____

By:_____

Print Name: _____

Title: _____

_____
Allison Swisher
Director of Public Utilities

END OF AGREEMENT

00 55 00

NOTICE TO PROCEED

To: _____ Date: _____

_____ Project: _____

_____ _____

_____ _____

_____ _____

You are hereby notified to commence WORK in accordance with the Agreement dated _____, 20__, on or before _____, 20__, and you are to complete the WORK within _____ consecutive calendar days thereafter.

The date of substantial completion of all WORK is therefore _____, 20__. The date of final completion of all WORK is therefore _____, 20__.

_____
(Owner)

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by _____

_____.

This the ___ day of _____, 20___.

By _____

Title _____

REPRESENTATIONS, CERTIFICATIONS AND FORMS

00 61 13.13	PERFORMANCE BOND FORM
00 61 13.16	PAYMENT BOND FORM
00 61 19	MAINTENANCE BOND FORM
CERTIFICATE 00 62 03	ILLINOIS DRUG FREE WORKPLACE ACT
CERTIFICATE 00 62 04	ILLINOIS CONTRACTOR CERTIFICATION
CERTIFICATE 00 62 05	ILLINOIS COMPLIANCE WITH SAFETY REQUIREMENTS
CERTIFICATE 00 62 06	ILLINOIS TAX DELINQUENCY/DEFAULT
CERTIFICATE 00 62 07	SUBSTANCE ABUSE PREVENTION PROGRAM
CERTIFICATE 00 62 08	EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT
CERTIFICATE 00 62 16	CERTIFICATE OF INSURANCE FORM
CERTIFICATE 00 62 16.13	ADDITIONAL INSUREDS
CERTIFICATE 00 62 16.16	ADDITIONAL INSUREDS
CERTIFICATE 00 62 16.19	ADDITIONAL INSUREDS
CERTIFICATE 00 62 16.21	ADDITIONAL INSUREDS
CERTIFICATE 00 62 33.13	BIDDER CERTIFICATION REGARDING THE USE OF AMERICAN IRON AND STEEL PRODUCTS
CERTIFICATE 00 62 76.01	SWORN STATEMENT
FORM 00 62 76.02	PARTIAL WAIVER OF LIEN
FORM 00 62 76.03	CONTRACTOR’S AFFIDAVIT
FORM 00 62 76.04	FINAL WAIVER OF LIEN
00 62 76.14	TAX EXEMPTION CERTIFICATE
00 62 79	STORED MATERIAL FORM
00 63 49	WORK CHANGE DIRECTIVE FORM

00 63 63	CHANGE ORDER FORM
CERTIFICATE 00 65 16	CERTIFICATE OF SUBSTANTIAL COMPLETION FORM
CERTIFICATE 00 65 19	CERTIFICATE OF COMPLETION FORM
00 65 36	WARRANTY FORM
00 65 36.03	CONTRACTOR'S AFFIDAVIT LETTER
CERTIFICATE 00 74 23.01	DBE FORM #1 (CONTRACTOR CERTIFICATION)
CERTIFICATE 00 74 23.02	DBE FORM #3 (SUBCONTRACTOR UTILIZATION)
CERTIFICATE 00 74 23.03	DBE FORM #4 (BIDDER'S LIST)
CERTIFICATE 00 74 23.04	BIDDER CERTIFICATION IN COMPLIANCE WITH ARTICLE 33 E TO THE "CRIMINAL CODE OF 1961"
CERTIFICATE 00 74 23.05	USEPA CERTIFICATION OF NONSEGREGATED FACILITIES
CERTIFICATE 00 74 23.06	NOTICE TO LABOR UNIONS OR OTHER ORGANIZATIONS OF WORKERS NONDISCRIMINATION IN EMPLOYMENT
CERTIFICATE 00 74 23.07	USEPA CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
00 74 23.52	WHISTLEBLOWERS RIGHTS POSTER (APPENDIX B)
00 74 23.55	EMPLOYEE RIGHTS UNDER THE DAVIS-BACON ACT POSTER (APPENDIX E)
00 74 23.57	U.S. DEPARTMENT OF LABOR FORM 1215 PAYROLL (APPENDIX G)
00 74 23.58	U.S. DEPARTMENT OF LABOR FORM 1445 LABOR STANDARDS INTERVIEW (APPENDIX H)

00 61 13.13

PERFORMANCE BOND FORM

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

OWNER:

CONSTRUCTION CONTRACT:

Date:
Amount:
Description:

BOND:

Date:
Amount:

CONTRACTOR AS PRINCIPAL: (Corp. Seal)
Company:

SURETY: (Corp. Seal)
Company**:**

Signature:_____

Signature:_____

PERFORMANCE BOND FORM

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.
3. If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below, that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default: and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1: and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract: or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default: or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefor to the Owner: or
2. Deny liability in whole or in part and notify the Owner citing reasons therefor.

5. If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
6. After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1. The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract"

6.2. Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions of failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY --- NAME, ADDRESS AND TELEPHONE)	
AGENT OR BROKER:	OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

00 61 13.16

PAYMENT BOND FORM

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

OWNER:

CONSTRUCTION CONTRACT:

Date:
Amount:
Description:

BOND:

Date:
Amount:

CONTRACTOR AS PRINCIPAL: (Corp. Seal)
Company:

SURETY: (Corp. Seal)
Company**:**

Signature:_____

Signature:_____

PAYMENT BOND FORM

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2. With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

1. Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed: and
2. Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly: and
3. Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5. If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6. RESERVED

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this bond, subject to the Owner's priority to use the funds for the completion of the work.

9. The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2 (iii), or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitations in the terms, "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete with the other terms thereof.

FOR INFORMATION ONLY --- NAME, ADDRESS AND TELEPHONE)	
AGENT OR BROKER:	OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

MAINTENANCE/WARRANTY BOND

Know ALL MEN BY THESE PRESENTS. That we

_____

as Principal, and _____,
as Surety, are held and firmly bound unto _____, State of Illinois as Obligee, in the penal sum of _____ ($_____) to which payment well and truly to be made we do bind ourselves, our and each of our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

WHEREAS, the said Principal entered into a Contract with the _____, State of Illinois _____ dated _____ for _____

WHEREAS, said Contract provides that the Principal will furnish a Bond conditioned to guarantee for the period of _____ year(s) after approval of the final payment on said job, by the Owner, against all defects in workmanship and materials which may become apparent during said period, and

WHEREAS, the said Contract has been completed, and was approved on the _____ day of _____ 20_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that, if the Principal shall indemnify the Obligee for all loss that the Obligee may sustain by reason of any defective materials or workmanship which becomes apparent during the period of _____ year(s) from and after _____ then this obligation shall be void, otherwise to remain in full force and effect.

SIGNED, SEALED, AND DATED

_____ (L.S.)

_____ (L.S.)

_____ (L.S.)
Principal(s)

Surety Name

by _____
, Attorney-in-Fact

DEPARTMENT OF FINANCE
PURCHASING DIVISION
KEVIN SING
FINANCE DIRECTOR
ksing@joliet.gov

Prospective Bidders:

Enclosed are bid documents which may be of interest to your company.

Please note the date as to when these bids will be opened.

THIS BID DOCUMENT MUST BE RETURNED INTACT (THE SAME ORDER AS RECEIVED). FAILURE TO DO SO MAY INVALIDATE YOUR PROPOSAL.

ALL BIDS SHALL BE SUBMITTED IN AN OPAQUE, SEALED ENVELOPE TO THE CITY CLERK, 150 WEST JEFFERSON STREET, JOLIET, ILLINOIS 60432, PRIOR TO THE TIME AND DATE SET FORTH FOR BID OPENING IN THE NOTICE TO BIDDERS. EACH BID SHALL BE ADDRESSED TO THE CITY CLERK AND SHALL BEAR ON THE FACE OF THE ENVELOPE THE NAME OF THE BIDDER, AND A STATEMENT THAT IT IS A SEALED BID, TO BE OPENED FOR THE CONTRACT CONSIDERED, AT THE DATE AND HOUR SET FORTH IN THE INVITATION TO BID.

THE BIDDER SHALL ALSO STATE ON THE OUTSIDE OF THE ENVELOPE THAT HE/SHE IS IN RECEIPT OF ALL ADDENDUMS TO THE CONTRACT.

ANY QUESTIONS OR CLARIFICATIONS CONCERNING THESE SPECIFICATIONS SHOULD BE IN WRITING AND DIRECTED TO THE PURCHASING DIVISION AT purchasing@joliet.gov

ANY ORAL OR WRITTEN COMMENTS RECEIVED FROM ANY OTHER PERSON OTHER THAN THE CONTRACT ADMINISTRATOR, WILL NOT BE CONSIDERED AND ALSO, MAY INVALIDATE YOUR PROPOSAL.

THANK YOU FOR BIDDING.

MAYOR
Terry D'arcy

COUNCILPERSONS
Cesar Cardenas
Joe Clement
Cesar Guerrero
Larry E. Hug
Pat Mudron
Jan Hallums Quillman
Sherri Reardon

CITY MANAGER
Beth Beatty

FINANCE DIRECTOR
Kevin Sing

DEPARTMENT OF PUBLIC WORKS & UTILITIES
815-724-4200 Direct
815-723-7770 Fax

CITY OF JOLIET

150 WEST JEFFERSON STREET
JOLIET, ILLINOIS 60432-4158

GENERAL CONTRACTOR

RE: 2025 CONSTRUCTION PROJECTS

Dear General Contractor:

The City of Joliet currently has specifications, which require ten **(10%)** percent minority participation in contracts over $100,000.00. In an effort to track this information better, the City of Joliet will be requiring all GENERAL CONTRACTS to submit to a complete list of sub-contractors they intend to use on the awarded project at the pre-construction meeting. The issuance of this sub-contractor list will help the City ensure that minority requirements are met as well as prevailing wages. The sub-contractor list should include the dollar amount or percentage of this contract for the work the sub-contractor is responsible. I.D.O.T. for BC 260-A is an example of such an acceptable form. In addition, the specification states that monthly certified payroll records are to be submitted to the Engineer. This will also be enforced for the upcoming construction season.

The City of Joliet appreciates your effort throughout the years and looks forward to working with you in the upcoming construction season.

Gregory P. Ruddy, P.E.
Director of Public Works

Allison Swisher
Director of Public Utilities

NOTICE

The City of Joliet has adopted a Responsible Bidder Ordinance (2-440). In addition to any other requirement, unless otherwise expressly stated in a bid solicitation or an award of contract, or applicable state or federal law or regulation states otherwise, all bidders must comply with the following requirements in order to submit a bid or be awarded a contract.

1. The bidder must be a duly organized legal entity in good standing with the Illinois Secretary of State and in compliance with all laws prerequisite to doing business in the state and submit a copy of the Illinois Secretary of State Department of Business Services online records evidencing that the bidder has a current corporate annual report on file, if required. If the bidder is an individual, sole proprietorship, or partnership, this subsection shall not apply.

2. The bidder must have a valid Federal Tax Identification Number or Social Security Number (for individuals), documents evidencing current registration with the Illinois Department of Revenue and the Illinois Department of Employment Security (if bidder has employees).

3. The bidder must be an equal opportunity employer and comply with Section 2000(e) of Chapter 21, Title 42 of the United States Code and Executive Order 11246.

4. The bidder shall provide certificates of insurance indicating the following coverages if called for in the bid solicitation: general liability, workers compensation, completed operations, automobile, hazardous occupation, and product liability.

5. A statement that all employees are (i) covered under a current workers' compensation insurance policy, and (ii) properly classified under such policy. If the bidder is insured with a carrier, the evidence of workers' compensation insurance shall be a copy of the "Information Page" which includes the name and address of the insured, as well as class codes upon which the compensation premium is based and the total estimated remuneration per class code.

6. A statement of compliance with all provisions of the Illinois Prevailing Wage Act (820 ILCS 130), as amended, and all the rules and regulations therein, for the past five (5) years. Such statement shall also provide that the contractor has reviewed the Prevailing Wage Act or the federal Davis-Bacon

and Related Acts, has reviewed and agrees to pay the applicable prevailing wage rates attached to the bid specifications, and will strictly comply with the Prevailing Wage Act or federal Davis-Bacon and Related Acts and related requirements, including wages, medical and hospitalization insurance and retirement for those trades covered in the Act. A contractor who has been found, by the Illinois Department of Labor, to be in violation of the Prevailing Wage Act twice within a three (3) year period shall be deemed to not be Responsible Bidder for two (2) years from the date of the latest finding.

7. Certification of compliance with the Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1, et seq.).

8. A certification that individuals who perform work on the public works project on behalf of the contractor are properly classified as either (i) an employee, or (ii) an independent contractor under all applicable state and federal laws and local ordinances.

9. Documents evidencing any professional or trade licenses required by law or local ordinance for any trade or specialty in which the contractor is seeking a contract award. Additionally, the contractor must disclose any suspension or revocation of such license held by the company, or of any director, officer, or manager of the company.

10. For construction contracts (construction of new facilities, renovation of existing facilities, or road construction projects), or demolition contracts, over $25,000 (twenty five thousand dollars), evidence of participation in apprenticeship and training programs applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards or Apprenticeship Agreement(s) for any apprentice(s) who will perform work on the public works project.

11. Disclosure of the name and address of each subcontractor from whom the contractor has accepted a bid and/or intends to hire on any part of the project. Further, each such subcontractor shall be required to adhere to the requirements set forth herein as though it were bidding directly to the city. Each contractor shall submit all subcontractor information and supporting documentation to the city prior to the subcontractor commencing work on the project.

12. Unless otherwise agreed to in a collective bargaining agreement, the bidder shall certify that it provides, or contributes to, a health care plan for those employees working on the project and shall provide a copy of the health care plan upon request. The contributions toward a health care plan must be part of the employee's regular compensation, and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

13. Unless otherwise agreed to in a collective bargaining agreement, the bidder shall certify that it contributes to an employee pension or retirement program, including but not limited to a 401k, a defined benefit plan or a similar plan for its field employees working on the project and shall provide a copy of the plan upon request. The contributions toward a pension or retirement program must be a part of the employee's regular compensation and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

14. Certification that the bidder has not been subject to any determinations by a court or governmental agency for violations of federal, state, or local laws, including but not limited to serious, willful, or repeated violations of the Occupational Safety and Health Act (OSHA), violations of contracting or antitrust laws, tax or licensing laws, environmental laws, or the federal Davis-Bacon and Related Acts.

15. Whenever practical, the bidder should prequalify as a local bidder.

16. Any material changes to the contractor's status, at any time during the performance of the project, must be reported in writing to the city within fourteen (14) days of its occurrence. Failure to comply with this requirement is grounds for the contractor to be deemed a non-responsible bidder.

17. The submission requirements of this Ordinance also apply to subcontractors, except that the contractor shall submit all subcontractor submissions to the city prior to the subcontractor commencing work on the project. Failure of a subcontractor to submit the required information shall not disqualify the successful bidder from performing work on the project and shall not constitute a contractual default and/or breach by the successful bidder. However, the city may withhold all payments otherwise due for work performed by a subcontractor until the subcontractor submits the required information and the city approves such information. Further, where the city deems necessary, the city may also require that the successful bidder remove the subcontractor from the project and replace it with a responsive and responsible subcontractor.

CERTIFICATIONS/ATTACHMENTS

For each required certification or submission, the bidder shall comply with the appropriate subsection of the City of Joliet code of ordinances by initialing the page and/or attaching the required documentation to the page.

The certification pages should be initialed and submitted with the bid along with the required attachments.

There are 16 certification pages and a checklist that follows.

2-440(1) - The bidder must be a duly organized legal entity in good standing with the Illinois Secretary of State and in compliance with all laws prerequisite to doing business in the state and submit a copy of the Illinois Secretary of State Department of Business Services online records evidencing that the bidder has a current corporate annual report on file, if required. If the bidder is an individual, sole proprietorship, or partnership, this subsection shall not apply.

I hereby certify that the bidder is a duly organized legal entity in good standing with the Illinois Secretary of State and in compliance with all laws prerequisite to doing business in the state.

_____

Initials of bidder

Or:

I certify that the bidder is an individual, sole proprietor, or partnership.

_____

Initials of bidder

Attachment: Illinois Secretary of State Department of Business Services online records evidencing that the bidder has a current corporate annual report on file (if required).

Mark attachment as "Attachment A"

2-440(2) - The bidder must have a valid Federal Tax Identification Number or Social Security Number (for individuals), documents evidencing current registration with the Illinois Department of Revenue and the Illinois Department of Employment Security (if bidder has employees).

Attachment: Documents evidencing current registration with the Illinois Department of Revenue and the Illinois Department of Employment Security (if bidder has employees).

Mark attachment as "Attachment B"

2-440(3) - The bidder must be an equal opportunity employer and comply with Section 2000(e) of Chapter 21, Title 42 of the United States Code and Executive Order 11246.

I certify that the bidder is an equal opportunity employer and is in compliance with Section 2000(e) of Chapter 21, Title 42 of the United States Code and Executive Order 11246.

_____

Initials of bidder

2-440(4) - The bidder shall provide certificates of insurance indicating the following coverages if called for in the bid solicitation: general liability, workers compensation, completed operations, automobile, hazardous occupation, and product liability.

Attachments: Certificates of insurance indicating the following coverages as called for in the bid solicitation.

Mark attachment as "Attachment C"

2-440(5) - A statement that all employees are (i) covered under a current workers' compensation insurance policy, and (ii) properly classified under such policy. If the bidder is insured with a carrier, the evidence of workers' compensation insurance shall be a copy of the "Information Page" which includes the name and address of the insured, as well as class codes upon which the compensation premium is based and the total estimated remuneration per class code.

I certify that all employees are (i) covered under a current workers' compensation insurance policy, and (ii) properly classified under such policy.

_____

Initials of bidder

Attachment: "Information Page" which includes the name and address of the insured, as well as class codes upon which the compensation premium is based and the total estimated remuneration per class code (if applicable).

Mark attachment as "Attachment D"

2-440(6) - A statement of compliance with all provisions of the Illinois Prevailing Wage Act (820 ILCS 130), as amended, and all the rules and regulations therein, for the past five (5) years. Such statement shall also provide that the contractor has reviewed the Prevailing Wage Act or the federal Davis-Bacon and Related Acts, has reviewed and agrees to pay the applicable prevailing wage rates attached to the bid specifications, and will strictly comply with the Prevailing Wage Act or federal Davis-Bacon and Related Acts and related requirements, including wages, medical and hospitalization insurance and retirement for those trades covered in the Act. A contractor who has been found, by the Illinois Department of Labor, to be in violation of the Prevailing Wage Act twice within a three (3) year period shall be deemed to not be Responsible Bidder for two (2) years from the date of the latest finding.

I certify that the bidder is in compliance with all provisions of the Illinois Prevailing Wage Act (820 ILCS 130), as amended, and all the rules and regulations therein, and has been for the past five (5) years.

_____

Initials of bidder

I certify that that the contractor has reviewed the Prevailing Wage Act or the federal Davis-Bacon and Related Acts, has reviewed and agrees to pay the applicable prevailing wage rates attached to the bid specifications, and will strictly comply with the Prevailing Wage Act or federal Davis-Bacon and Related Acts and related requirements, including wages, medical and hospitalization insurance and retirement for those trades covered in the Act.

_____

Initials of bidder

2-440(7) - Certification of compliance with the Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1, et seq.).

I certify that the bidder is in compliance with the Substance Abuse Prevention on Public Works Projects Act (820 ILCS 265/1, et seq.).

_____

Initials of bidder

2-440(8) - A certification that individuals who perform work on the public works project on behalf of the contractor are properly classified as either (i) an employee, or (ii) an independent contractor under all applicable state and federal laws and local ordinances.

I certify that all individuals who perform work on the public works project on behalf of the contractor are properly classified as either (i) an employee, or (ii) an independent contractor under all applicable state and federal laws and local ordinances.

_____

Initials of bidder

2-440(9) - Documents evidencing any professional or trade licenses required by law or local ordinance for any trade or specialty in which the contractor is seeking a contract award. Additionally, the contractor must disclose any suspension or revocation of such license held by the company, or of any director, officer, or manager of the company.

Attachments: Documents evidencing any professional or trade licenses required by law or local ordinance for any trade or specialty in which the contractor is seeking a contract award.

Mark attachment as "Attachment E"

Attachments: Disclosure of any suspension or revocation of such license held by the company, or of any director, officer, or manager of the company.

Mark attachment as "Attachment E1"

Or

I certify that the contractor has not been the subject of any suspension or revocation of such license held by the company, or of any director, officer, or manager of the company.

_____

Initials of bidder

2-440(10) - For construction contracts (construction of new facilities, renovation of existing facilities, or road construction projects), or demolition contracts, over $25,000 (twenty five thousand dollars), evidence of participation in apprenticeship and training programs applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards or Apprenticeship Agreement(s) for any apprentice(s) who will perform work on the public works project.

Attachments: Evidence of participation in apprenticeship and training programs applicable to the work to be performed on the project, which are approved by and registered with the United States Department of Labor's Office of Apprenticeship, or its successor organization. The required evidence includes but is not limited to a copy of all applicable apprenticeship standards or Apprenticeship Agreement(s) for any apprentice(s) who will perform work on the public works project.

Mark attachment as "Attachment F"

2-440(11) - Disclosure of the name and address of each subcontractor from whom the contractor has accepted a bid and/or intends to hire on any part of the project. Further, each such subcontractor shall be required to adhere to the requirements set forth herein as though it were bidding directly to the city. Each contractor shall submit all subcontractor information and supporting documentation to the city prior to the subcontractor commencing work on the project.

Attachments: The name and address of each subcontractor from whom the contractor has accepted a bid and/or intends to hire on any part of the project.

Mark attachment as "Attachment G"

I certify and acknowledge that the bidder shall submit all subcontractor information and supporting documentation to the city prior to the subcontractor commencing work on the project.

_____

Initials of bidder

2-440(12) - Unless otherwise agreed to in a collective bargaining agreement, the bidder shall certify that it provides, or contributes to, a health care plan for those employees working on the project and shall provide a copy of the health care plan upon request. The contributions toward a health care plan must be part of the employee's regular compensation, and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

I certify that the bidder provides, or contributes to, a health care plan for those employees working on the project and shall provide a copy of the health care plan upon request. I further certify that these contributions are part of the employee's regular compensation, and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

_____

Initials of bidder

Or

I certify that the bidder is subject to a collective bargaining agreement which addresses issues regarding a health care plan.

_____

Initials of bidder

2-440(13) - Unless otherwise agreed to in a collective bargaining agreement, the bidder shall certify that it contributes to an employee pension or retirement program, including but not limited to a 401k, a defined benefit plan or a similar plan for its field employees working on the project and shall provide a copy of the plan upon request. The contributions toward a pension or retirement program must be a part of the employee's regular compensation and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

I certify that the bidder contributes to an employee pension or retirement program, including but not limited to a 401k, a defined benefit plan or a similar plan for its field employees working on the project and shall provide a copy of the plan upon request. These contributions toward a pension or retirement program are part of the employee's regular compensation and not merely part of the employee's compensation during the period of time for which the employee is performing work on the project.

_____

Initials of bidder

Or

I certify that the bidder is subject to a collective bargaining agreement which addresses contributions to an employee pension or retirement program, including but not limited to a 401k, a defined benefit plan or a similar plan for its field employees working on the project and shall provide a copy of the plan upon request.

_____

Initials of bidder

2-440(14) - Certification that the bidder has not been subject to any determinations by a court or governmental agency for violations of federal, state, or local laws, including but not limited to serious, willful, or repeated violations of the Occupational Safety and Health Act (OSHA), violations of contracting or antitrust laws, tax or licensing laws, environmental laws, or the federal Davis-Bacon and Related Acts.

I certify that the bidder has not been subject to any determinations by a court or governmental agency for violations of federal, state, or local laws, including but not limited to serious, willful, or repeated violations of the Occupational Safety and Health Act (OSHA), violations of contracting or antitrust laws, tax or licensing laws, environmental laws, or the federal Davis-Bacon and Related Acts.

_____

Initials of bidder

> 2-440(b) - Any material changes to the contractor's status, at any time during the performance of the project, must be reported in writing to the city within fourteen (14) days of its occurrence. Failure to comply with this requirement is grounds for the contractor to be deemed a non-responsible bidder.

I certify and acknowledge that any material changes to the contractor's status, at any time during the performance of the project, must be reported in writing to the city within fourteen (14) days of its occurrence. Failure to comply with this requirement is grounds for the contractor to be deemed a non-responsible bidder.

_____

Initials of bidder

2-440(d) - The submission requirements of this Ordinance also apply to subcontractors, except that the contractor shall submit all subcontractor submissions to the city prior to the subcontractor commencing work on the project. Failure of a subcontractor to submit the required information shall not disqualify the successful bidder from performing work on the project and shall not constitute a contractual default and/or breach by the successful bidder. However, the city may withhold all payments otherwise due for work performed by a subcontractor until the subcontractor submits the required information and the city approves such information. Further, where the city deems necessary, the city may also require that the successful bidder remove the subcontractor from the project and replace it with a responsive and responsible subcontractor.

I certify and acknowledge that the submission requirements of this Ordinance also apply to subcontractors. I further acknowledge that the city may withhold all payments otherwise due for work performed by a subcontractor until the subcontractor submits required information and the city approves such information. I further acknowledge that where the city deems necessary, the city may also require that the successful bidder remove the subcontractor from the project and replace it with a responsive and responsible subcontractor.

_____

Initials of bidder

CERTIFICATION CHECKLIST

Initial bottom of page to certify that required certifications and attachments are complete.

Bidders/Contractor are required to certify to the following items:

2-440(1) – Good standing with S.O.S. _____

2-440(3) – Equal opportunity employer _____

2-440(5) – Workers' compensation coverage _____

2-440(6) – Prevailing Wage Act _____

2-440(7) – Substance Abuse Prevention on Public Works Act _____

2-440(8) – Employees properly classified _____

2-440(9) – Contractor properly licensed _____

2-440(11) – Disclosure of subcontractor information _____

2-440(12) – Employee health care plan _____

2-440(13) – Employee retirement plan _____

2-440(14) – OSHA compliance _____

2-440(b) – Required reporting of change in status _____

2-440(d) – Required updating of subcontractor information _____

Bidders/Contractor are required to attach the following documents:

2-440(1) – S.O.S. annual report (if required) _____

2-440(2) – Registration with IDOR and IDES _____

2-440(4) – Certificates of insurance _____

2-440(5) – Information page regarding workers' compensation _____

2-440(9) – Professional or trade licenses required _____

2-440(9) – Disclosure of suspension or revocation of license _____

2-440(10) – Apprenticeship standards or agreements (if required) _____

2-440(11) – List of subcontractors _____

I certify that all required certifications and attachments are included in the bid documents

_____

Initials of bidder

CERTIFICATE 00 62 03

ILLINOIS DRUG FREE WORKPLACE ACT

Ill. Comp. Stat. ch. 30-580

The Contractor certifies and agrees that it will provide a drug free workplace by:

(a) Publishing a statement:

(1) Notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance, including cannabis, is prohibited in the Contractor's workplace.

(2) Specifying the actions that will be taken against employees for violations of such prohibition.

(3) Notifying the employee that, as a condition of employment on such contract, the employee will:

(A) abide by the terms of the statement; and

(B) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

(b) Establishing a drug free awareness program to inform employees about:

(1) the dangers of drug abuse in the workplace;

(2) the Contractor's policy of maintaining a drug free workplace;

(3) any available drug counseling, rehabilitation, and employee assistance programs; and

(4) the penalties that may be imposed upon an employee for drug violations.

(c) Providing a copy of the statement required by subparagraph (a) to each employee engaged in the performance of the contract and to post the statement in a prominent place in the workplace.

(d) notifying the contracting agency within ten (10) days after receiving notice under part (B) of paragraph (3) of subsection (a) above from an employee or otherwise receiving actual notice of such conviction.

(e) Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by, any employee who is so convicted, as required by section 5 of the Drug Free Workplace Act.

(f) Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.

(g) Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act.

THE UNDERSIGNED AFFIRMS, UNDER PENALTIES OF PERJURY, THAT HE OR SHE IS AUTHORIZED TO EXECUTE THIS CERTIFICATION ON BEHALF OF THE DESIGNATED ORGANIZATION.

_____

Printed Name of Contractor

_____

Signature of Authorized Representative

_____ _____

Printed Name and Title Date

CERTIFICATE 00 62 04

ILLINOIS CONTRACTOR CERTIFICATION

_____, being first duly sworn on oath, deposes and states that all statements herein made are made on behalf of Contractor, that this deponent is authorized to make them, and that the statements contained herein are true and correct.

Contractor deposes, states, and certifies that Contractor is not barred from bidding and/or contracting with a unit of state or local government as a result of (I) any person holding an interest in this Contract in violation of Sections 11.1 et seq. of the Illinois Purchasing Act, 30 ILCS 505/11.1 et seq., (ii) the commission of an act in violation of Section 10.1 of the Illinois Purchasing Act, 30 ILCS 505/10.1; (iii) a default on an educational loan as provided in the Educational Loan Default Act, 5 ILCS 385/0.01 et seq.; (iv) a delinquency in the payment of any tax administered by the Illinois Department of Revenue unless contractor is contesting in accordance with the procedures established by the appropriate Revenue Act, its liability for the tax or the amount of tax, as set forth in 65 ILCS 5/11-42.1-1; or (v) a violation of either Section 33E-3 or Section 33-E-4 of Article 33E of the Criminal Code of 1961, 720 ILCS 5/33E-1 et seq.

Contractor further deposes, states and certifies that Contractor is in compliance with and shall continue to comply with the Illinois Human Rights Act, 775 ILCS 5/1-101 et seq.

Dated this _____ day of _____, 20____,

Attest/Witness

By:_____ By:_____

Title:_____ Title:_____

Subscribed and sworn to before me
this _____ day of _____, 20___. My Commission Expires:

_____ _____
Notary Public SEAL

CERTIFICATE 00 62 05

ILLINOIS COMPLIANCE WITH SAFETY REQUIREMENTS

The undersigned, as a duly-authorized representative of the Contractor, hereby certifies to the (Owner) _____ Illinois, that the Contractor is fully aware of and able to comply with all Local, State, and Federal Safety Laws and Regulations applicable for the construction of the Project known as (Project) _____

_____

_____.

_____
Name

_____
Company

_____
Date

CERTIFICATE 00 62 06

ILLINOIS TAX DELINQUENCY/DEFAULT

The undersigned, upon being first duly sworn, hereby certifies to the (Owner) _____

_____

_____, that _____

(Contractor) is not currently delinquent in the payment of any tax administered by or owed to the Illinois Department of Revenue, of otherwise in default upon any such tax as defined under Chapter 24, Section 11-42-.1, Illinois Revised Statutes.

By:_____
(Name of Contractor)

_____
(Title)

Subscribed and sworn to before me
this _____ day of _____, 20___. My Commission Expires:

_____ _____
Notary Public SEAL

CERTIFICATE 00 62 07

SUBSTANCE ABUSE PREVENTION PROGRAM

The undersigned, upon being first duly sworn, hereby certifies to the (Owner) _____

_____,

that

_____(Contractor) has in place a written Substance Abuse Prevention Program that meets or exceeds the requirements of the State of Illinois P.A. 095-0635, or has a collective bargaining agreement in effect dealing with the subject matter of P.A. 095-0635. The Contractor and Subcontractors will file a copy of the Substance Abuse Prevention Program, or collective bargaining agreement, with the Client prior to any work being conducted on the project.

By:_____
(Name of Contractor)

_____
(Title)

Subscribed and sworn to before me
this _____ day of _____, 20___. My Commission Expires:

_____ _____
Notary Public SEAL

CERTIFICATE 00 62 08

EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT

This law comes into effect following two consecutive months of a state unemployment rate above 5 percent. More information about the Employment of Illinois Workers on Public Works Act can be found here: http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=549&ChapterID=7.

The Employment of IL Workers on Public Works Act requires the workforce on all public works projects to be comprised of a minimum of 90% Illinois residents.

The Illinois Department of Labor (IDOL) administers the Employment of Illinois Workers on Public Works Act, which was enacted to alleviate unemployment in Illinois by ensuring that most workers on public works projects live in the state. The requirement applies to all labor on public works projects or improvements. That includes public works projects that are funded in whole or in part with state funds or funds administered by the state of Illinois. Any public works project financed in whole or in part by federal funds administered by the State of Illinois is covered under the provisions of this act.

By signing below, the Contractor confirms awareness of this requirement.

_____

(Typed Name & Title of Authorized Representative)

_____

(Signature of Authorized Representative) (Date)

_____

(Company/Organization)

CERTIFICATE 00 62 16
CERTIFICATE OF INSURANCE
(SAMPLE FORM)

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
6/7/2022

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 have ADDITIONAL INSURED provisions or 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:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** 2041553290 **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.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	X **COMMERCIAL GENERAL LIABILITY**						EACH OCCURRENCE	$ 2,000,000
	[ ] CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:			SAMPLE			GENERAL AGGREGATE	$ 2,000,000
	[ ] POLICY [X] PRO-JECT [X] LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	[ ] OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	[ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS			SAMPLE			BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	X **UMBRELLA LIAB** X OCCUR						EACH OCCURRENCE	$ 5,000,000
	X **EXCESS LIAB** [ ] CLAIMS-MADE						AGGREGATE	$ 5,000,000
	[ ] DED [ ] RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N			SAMPLE			[ ] PER STATUTE [X] OTH-ER	
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [N] **(Mandatory in NH)**	N / A					E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
	Property Insurance - Minimum Amount - Initial Contract Prices							

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

(PROJECT NAME AND LISTING OF ALL ADDITIONAL INSUREDS AS REQUIRED BY WRITTEN CONTRACT)

CERTIFICATE HOLDER

(OWNER'S NAME or CERTIFICATE HOLDERS NAME)

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

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CERTIFICATE 00 62 16.13
ADDITIONAL INSUREDS
(SAMPLE FORM)

POLICY NUMBER: (_____) COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modified insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organizations:

(OWNER)
(BAXTER & WOODMAN, INC.)
(Others as required by the Contract Documents)

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

_____
Authorized Representative

This ____ day of _____, 20___

CERTIFICATE 00 62 16.16
ADDITIONAL INSUREDS
(SAMPLE FORM)

POLICY NUMBER ( ) PROPERTY INSURANCE

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modified insurance provided under the following:

PROPERTY INSURANCE

SCHEDULE

Name of Person or Organizations:

(OWNER)
(BAXTER & WOODMAN, INC.)
(Others as required by the Contract Documents)

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

_____
Authorized Representative

This ____ day of _____, 20__

CERTIFICATE 00 62 16.19
ADDITIONAL INSUREDS
(SAMPLE FORM)

POLICY NUMBER (_____) COMPLETED OPERATIONS

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modified insurance provided under the following:

COMPLETED OPERATIONS LIABILITY COVERAGE

SCHEDULE

Name of Person or Organizations:

(OWNER)
(BAXTER & WOODMAN, INC.)
(Others as required by the Contract Documents)

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

_____
Authorized Representative

This ____ day of _____, 20__

CERTIFICATE 00 62 16.21
ADDITIONAL INSUREDS
(SAMPLE FORM)

POLICY NUMBER (_____) EXCESS/UMBRELLA LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modified insurance provided under the following:

EXCESS/UMBRELLA LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organizations:

(OWNER)
(BAXTER & WOODMAN, INC.)
(Others as required by the Contract Documents)

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

_____
Authorized Representative

This ____ day of _____, 20__

CERTIFICATE 00 62 33.13

BIDDER CERTIFICATION REGARDING THE USE OF
AMERICAN IRON AND STEEL PRODUCTS

I, _____, do hereby certify that:
Name

1. I am _____(title) of the _____ (company, partnership, etc.) and have authority to execute this certification on behalf of the firm.

2. This firm is aware that all iron and steel products used for this project must be produced in the United States per Section 436 (a) – (f) of the Consolidated Appropriations Act, 2014.

3. This firm is aware that the use of American iron and steel products applies to all projects for the construction, alteration, maintenance, or repair of publically owned treatment works (POTW) or public water systems.

4. This firm understands the term “iron and steel products” refers to the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

5. I am aware that this requirement applies to all portions of the project that are subcontracted.

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

END OF CERTIFICATE 00 62 33.13

Use of American Iron and Steel

Sec. 436. (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term `iron and steel products' means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the `Administrator') finds that--

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency's capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

CERTIFICATE 00 62 76.01
SWORN STATEMENT
(SAMPLE FORM)

State of_____}ss.
County of_____}

THE AFFIANT, _____ ***BEING FIRST DULY SWORN, ON OATH DEPOSES AND SAYS***

THAT HE/SHE IS _____ ***THAT*** _____ ***HAS***
(POSITION)
CONTRACT WITH _____ ***, OWNER*** _____ ***FOR***

_____
(KIND OF WORK)
ON THE FOLLOWING DESCRIBED PREMISES IN SAID COUNTY, TO-WIT: _____

THAT, FOR THE PURPOSE OF SAID CONTRACT, THE FOLLOWING PERSONS HAVE BEEN CONTRACTED WITH, AND HAVE FURNISHED, OR ARE FURNISHING AND PREPARING MATERIALS FOR, AND HAVE DONE OR ARE DOING LABOR ON SAID IMPROVEMENT. THAT THERE IS DUE AND TO BECOME DUE THEM, RESPECTIVELY, THE AMOUNTS SET OPPOSITE THEIR NAMES FOR MATERIALS OR LABOR AS STATED. THAT THIS IS A FULL, TRUE, AND COMPLETE STATEMENT OF ALL SUCH PERSONS, AND OF THE AMOUNTS PAID.

1	2	3	4	5	6	7
NAME AND ADDRESS	KIND OF WORK	ADJUSTED TOTAL CONTRACT INCL. EXTRAS AND CREDITS	TOTAL RETAINED INCLUDING THIS APPLICATION	NET PREVIOUSLY PAID	NET AMOUNT OF THIS PAYMENT	BALANCE TO BECOME DUE (INC. RETENTION)
----------	----------					
----------	----------					
----------	----------				

00 62 76.02
PARTIAL WAIVER OF LIEN
(SAMPLE FORM)

STATE OF ILLINOIS
COUNTY OF } SS

Gty # _____
Loan # _____

TO WHOM IT MAY CONCERN:
WHEREAS the undersigned has been employed by _____
to furnish _____
for the premises known as _____

of which _____ is the owner.

THE undersigned, for and in consideration of _____ _____($ _____) Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged do(es) hereby waive and release any and all lien or claim or right of lien under the Statutes of the State of Illinois, relating to Mechanic's liens, on the above described premises and improvements thereon, and on the monies or other considerations due or to become from the owner, on account of labor or services, material, fixtures or apparatus heretofore furnished to this date by the undersigned for the above described premises.

Given under _____ hand _____ and seal _____ this _____ day of _____, 20 ____.

_____ SEAL

_____ SEAL

Note: All waivers must be for the full amount paid. If waiver is for a corporation, corporate name should be used, corporate seal affixed and title of officer signing waiver should be set forth; if waiver is for a partnership, the partnership name should be used, partner should sign and designate himself as partner.

00 62 76.03
CONTRACTOR'S AFFIDAVIT
(SAMPLE FORM)

STATE OF ILLINOIS
COUNTY OF } SS

TO WHOM IT MAY CONCERN:

THE undersigned, being duly sworn, deposes and says that he is _____ of the _____ who is the Contractor for the _____ work on the being located at _____ owned by _____. That the total amount of the Contract including extras is $ _____ on which he has received payment of $ _____ prior to this payment. That all waivers are true, correct and genuine and delivered unconditionally and that there is no claim either legal or equitable to defeat the validity of said waivers. That the following are the names of all parties who have furnished material or labor, or both, for said work and all parties having contracts or sub-contracts for specific portions of said work or for material entering into the construction thereof and the amount due or to become due to each, and that the items mentioned include all labor and material required to complete said work according to plans and specifications.

NAMES	WHAT FOR	CONTRACT PRICE	AMOUNT PAID	BALANCE DUE
TOTAL LABOR AND MATERIAL TO COMPLETE				

That there are no other contracts for said work outstanding, and that there is nothing due or to become due to any person for material, labor or other work of any kind done or to be done upon or in connection with said work other than above stated.

Signed _____ this day of _____, 20____

_____

FINAL WAIVER OF LIEN
(SAMPLE FORM)

STATE OF ILLINOIS
COUNTY OF } SS

Qty # _____
Loan # _____

TO WHOM IT MAY CONCERN:
WHEREAS the undersigned has been employed by _____
to furnish _____
for the premises known as _____

of which _____ is the owner.

THE undersigned, for and in consideration of _____ ($) Dollars, and other good and valuable considerations, the receipt whereof is hereby acknowledged do(es) hereby waive and release any and all lien or claim or right of lien under the Statutes of the State of Illinois, relating to Mechanic's liens, on the above described premises and improvements thereon, and on the monies or other considerations due or to become from the owner, on account of labor or services, material, fixtures or apparatus heretofore furnished to this date by the undersigned for the above described premises.

Given under _____ hand _____ and seal _____ this _____ day of _____, 20 ____.

_____ SEAL

_____ SEAL

Note: All waivers must be for the full amount paid. If waiver is for a corporation, corporate name should be used, corporate seal affixed and title of officer signing waiver should be set forth; if waiver is for a partnership, the partnership name should be used, partner should sign and designate himself as partner.

Verify that all of your Illinois Sales Tax Exemption Certificate information is correct

- ✓ If not, contact us immediately.
- ✓ *Do not discard* - your Illinois Sales Tax Exemption Certificate is an important tax document that authorizes you to purchase tangible personal property for use or consumption tax-free.

OFFICIAL DOCUMENT — State of Illinois - Department of Revenue — OFFICIAL DOCUMENT

Illinois Sales Tax Exemption Certificate

CITY OF JOLIET

150 W JEFFERSON ST
JOLIET IL 60432-4148

Sales Tax Exemption Certificate

Issue date:
02/10/2020

Expiration date:
03/01/2025

Sales Tax Exemption E99925631

Organization type: Governmental

This entity is authorized under the Retailers' Occupation Tax Act to purchase tangible personal property for use or consumption tax-free.

ILLINOIS REVENUE
Director

OFFICIAL DOCUMENT - DO NOT DESTROY

STORED MATERIAL FORM

SHEET NO. ___OF ___

PROJECT: _____ PROJECT NO.: _____

OWNER: _____

CONTRACTOR: _____

Periodical Estimate for Partial Payment No._____

For Period _____ to _____ Inclusively

CONTRACT ITEM	DESCRIPTION	PREVIOUS VALUES	($) RECEIVED	($) USED	PRESENT VALUE ($)

WORK CHANGE DIRECTIVE FORM

NO._____

PROJECT: _____ **DATE OF ISSUANCE:** _____

OWNER: _____

ENGINEER: Baxter & Woodman, Inc.
8678 Ridgefield Road
Crystal Lake, IL 60012

CONTRACTOR:

ENGINEER'S PROJECT NO: _____

You are directed to proceed promptly with the following change(s):

Description:

Purpose of Work Directive Change:

Attachments:

If a claim is made that the above change(s) have affected Contract Price or Contract Time, any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

- ☐ Time and materials
- ☐ Unit prices
- ☐ Cost plus fixed fee
- ☐ Other _____
- ☐ _____

Estimated increase(decrease) in Contract Price: $_____. If the Change involves an increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Time:

- ☐ Contractor's records
- ☐ Engineer's records
- ☐ Other _____

Estimated increase(decrease) in Contract Time: _____ days. If the Change involves an increase, the estimated amount is not to be exceeded without further authorization.

RECOMMENDED: BAXTER & WOODMAN, INC.

By _____
Name
Title

AUTHORIZED: OWNER

By _____
Name
Title

00 63 63

CHANGE ORDER FORM

PROJECT: _____ **DATE OF ISSUANCE:** _____

OWNER: _____ **ENGINEER:** Baxter & Woodman, Inc.

CONTRACTOR: _____ **ENGINEER's Project No.** _____

You are directed to make the following changes in the Contract Documents:

Description: _____

Purpose of Change Order: _____

Attachments: _____

CHANGE IN CONTRACT PRICE:		**CHANGE IN CONTRACT TIME:**
Original Contract Price:	$_____	Original Contract Time: Substantial Completion: Completion:
Previous Change Orders: No. -__ to No. -__	$_____	Change from previous Change Orders:
Current Contract Price:	$_____	Current Contract Time: Substantial Completion: Completion:
Net increase/decrease of this Change Order:	$_____	Net increase/decrease of this Change Order:
Contract Price with this Change Order:	$_____	Contract Time with this Change Order: Substantial Completion: Completion:

NOTE: USE ANYTIME THE CHANGE ORDER EXCEEDS $10,000 ± OR 30 DAYS EXTENSION.

Pursuant to 720 ILCS 5/33E-9, (1) the circumstances said to necessitate the change in performance were not reasonably foreseeable at the time the contract was signed, (2) the change is germane to the original contract as signed, and (3) the change order is in the best interest of the Village of Municipality Name, Illinois.

PREPARED BY:	**APPROVED:**	**ACCEPTED:**
BAXTER & WOODMAN, INC.	Municipality	Contractor
By _____	By _____	By _____
Insert Name Construction Project Manager	Insert Name Insert Title	Insert Name Insert Title

RECOMMENDED BY:

By _____

Insert Name
Client Manager

CERTIFICATE 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION FORM

PROJECT: **ENGINEER'S Project No.:** _____

CONTRACTOR: **CONTRACT DATE:** _____

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO: [Owner] _____

AND TO: [Contractor] _____

The Work to which this Certificate applies has been observed by authorized representatives of Owner, Contractor, and Engineer, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on _____(Date of Substantial Completion).

A tentative list of items to be completed or corrected [follows -- is attached hereto]. This list may not be all-inclusive, and failure to include an item does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by Contractor within _____ calendar days of the above date of Substantial Completion.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, and warranties shall be as follows:

RESPONSIBILITIES:

Owner: _____

Contractor: _____
_____
_____

The following documents are attached to and made a part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer's Project Manager and Client Manager on _____, 20_____.

BAXTER & WOODMAN, INC.

By: _____

Client Manager

By: _____

Project Manager

Contractor accepts this Certificate of Substantial Completion on _____, 20_____.

CONTRACTOR NAME - ALL CAPS

By: _____

Name
Title

Owner accepts this Certificate of Substantial Completion on _____, 20_____.

OWNER NAME - ALL CAPS

By: _____

Name
Title

CERTIFICATE OF COMPLETION FORM

ENGINEER'S PROJECT NO.: _____

PROJECT: _____

_____

CONSTRUCTION CONTRACT DATE: _____

TO _____

AND TO _____

The undersigned hereby gives notice that the completed work furnished and performed by Contractor under the Contract for the above Project is acceptable expressly subject to the provisions of the Contract and the terms and conditions set forth on the reverse side hereof.

BAXTER & WOODMAN, INC.
CONSULTING ENGINEERS

By: _____

Date: , 20

The Notice on the front side of this paper is expressly made subject to the following terms and conditions:

1. Said Notice is given with the skill and care ordinarily used by members of the Engineering profession practicing under similar conditions at the same time and in the same locality.

2. Said Notice reflects and is an expression of the professional judgment of Engineer.

3. Said Notice is given as to the best of Engineer's knowledge, information and belief.

4. Said Notice is based entirely on the expressly limited scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Work) under Engineer's Agreement with Owner and under the Contract reference on the reverse hereof, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under Engineer's Agreement with Owner and the Contract referenced on the reverse hereof.

5. Said Notice is not a guarantee or warranty of Contractor's performance under the above-referenced Contract referenced on the reverse hereof nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents.

TO BE TRANSFERRED TO THE CONTRACTOR'S LETTERHEAD

Owner (see Bid Form)_____ _____
_____
_____
_____
_____

Subject: _____ – _____

Dear _____:

We, the _____, Contractor on the subject Project, hereby guarantee for a period of _____, commencing _____ and ending _____, that should any defect due to improper materials or workmanship develop during the period of the guarantee, the same shall be made good by us without expense to the _____.

This guarantee is for all work except that equipment separately guaranteed as called for under Section 01 61 01 of the Specifications.

Very truly yours,

A B C, INC.

_____

_____:_____

C: _____
_____
_____

TO BE TRANSFERRED TO THE CONTRACTOR'S LETTERHEAD

Owner (see Bid Form)_____ _____
_____
_____
_____
_____

Subject: _____ – _____

Dear _____:

We, _____ (Contractor) do hereby certify that so far as we have knowledge, the waivers of lien furnished herewith represent releases for all the labor and material for which a lien could be filed.

Should any liens remain unsatisfied after all payments are made by the _____ (Owner), we the _____ shall refund to the _____ (Owner) all monies the Owner may be obligated to pay in discharging such liens, including all costs and reasonable Attorney's fees.

Very truly yours,

A B C, INC.

_____

_____:_____

C: _____
_____
_____

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

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and

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

   a. does not conform to the Contract Documents; or

   b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

   c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during

performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

    a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

    b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

    1. A Field Order;

    2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

    3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

    1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

    2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole

risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

   c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

   1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

   2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

      a. reviewing and checking all such information and data;

      b. locating all Underground Facilities shown or indicated in the Contract Documents;

      c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

      d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

   1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith

(except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

a. Such insurance shall remain in effect for two years after final payment.

b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof

(subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors,

or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work

in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services; and

4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until

Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and

shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take

all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is

attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and

design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform

generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to

Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

    a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

    b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

    1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

    1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

    2. there is no corresponding adjustment with respect to any other item of Work; and

    3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all

fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

   a. the Work has progressed to the point indicated;

   b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial

Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

   a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

   b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

   a. to supervise, direct, or control the Work, or

   b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

   c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

   d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

   e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

   a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

   b. the Contract Price has been reduced by Change Orders;

   c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

   d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

   a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

   b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

   c. there are other items entitling Owner to a set-off against the amount recommended; or

   d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with

respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation

as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

ARTICLES 18, 19 AND 20 ADDED IN THE SUPPLEMENTARY CONDITIONS

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SUPPLEMENTARY CONDITIONS

PART 1 - GENERAL

1.1 SUPPLEMENTARY CONDITIONS

A. These Supplementary Conditions modify, change, delete from or add to the "Standard General Conditions of the Construction Contract" EJCDC No. C-700, 2007 edition. Where any Article of the General Conditions is modified, or any Paragraph, Subparagraph, or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

B. The General Conditions also may be supplemented elsewhere in the Contract Documents by provisions located in, but not necessarily limited to Division 01 of the Specifications.

1.2 ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

A. SC-1

1. The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract have the identical meaning assigned to them in said General Conditions.

B. SC-(1.01A.17)

1. The term "Drawings" and the term "Plans" shall be considered synonymous whenever and wherever used in the Contract Documents.

2. The following Drawings are part of the Contract Documents:

Drawings titled:	Heggie Park Phase 1 Water Main Improvements
Project No.:	2325880.00
Owner:	City of Joliet, Illinois
Sheets:	Consisting of 34 sheets prepared by Baxter & Woodman, Inc.

1.3 ARTICLE 2 - PRELIMINARY MATTERS

A. SC-2.01.B

1. Delete paragraph 2.01.B in its entirety and substitute the following:

2.01.B When Contractor delivers the executed Agreements to Owner, Contractor shall also deliver to Owner, with copies to each additional insured indicated in paragraphs 5.03 through 5.06, certificates of insurance which Contractor is required to purchase and maintain in accordance with paragraphs 5.03 and 5.04.

B. SC-2.02
   1. Delete paragraph 2.02 in its entirety and substitute the following:

      2.02 “Engineer will provide an electronic copy of the Drawings and Project Manual to the Contractor at the Preconstruction Conference.”

C. SC-2.03
   1. Under paragraph 2.03, delete the last sentence in its entirety.

D. SC-2.05.A
   1. Delete paragraph 2.05.A in its entirety.

E. SC-2.05.A.1 through 2.05.A.3
   1. Delete paragraphs 2.05.A.1 through 2.05.A.3 inclusive in their entirety.

F. SC-2.06
   1. Under paragraph 2.06, change "paragraph 2.05.A " to "paragraph 2.07".

G. SC-2.07
   1. Delete paragraph 2.07 in its entirety and substitute the following:

      2.07 Prior to submission of the first Application for Payment, but no later than 30 calendar days after Contract Times commence, Contractor shall submit to Engineer for review and approval:

      A. A progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

      B. A schedule of Shop Drawings and Sample submittal which will list each required submittal and the times for submitting, reviewing, and processing such submittal;
         1. The schedule for shop drawings shall show all submittals complete before 25 percent of Contract Price has been paid to Contractor.
         2. The schedule for maintenance manuals shall show all submittals complete before 50 percent of Contract Price has been paid to Contractor.
         3. Failure to meet either of these milestones will result in all future Pay Application Payments being delayed until such time as the milestone has been met in the opinion of the Engineer.

      C. A schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work; and

D. A schedule of progress payments Contractor anticipates will be earned during the course of the Work.

E. Contractor shall submit both an Illinois Works Jobs Program Act Apprenticeship Initiative Budge Supplement and an Illinois Works Apprenticeship Initiative Periodic Report with the first Application for Payment. Then, the Contractor shall submit an updated Apprenticeship Initiative Periodic Report as required by the Engineer, regardless of the Lending Agency's interval requirements.

No progress payment shall be made to Contractor until the schedules are submitted to and acceptable to Engineer as provided below. The progress schedule will be acceptable to Engineer as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on Engineer responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor. Contractor's schedule of Shop Drawing and Sample submissions will be acceptable to Engineer as providing a workable arrangement for reviewing and processing the required submittals. Contractor's schedule of values will be acceptable to Engineer as to form and substance.

1.4 ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

A. SC-4.01.A
1. Under paragraph 4.01.A, third sentence, insert the words "and temporary construction easements shown on the Drawings" after the word "facilities".

B. SC-4.02.A
1. Delete paragraph 4.02.A in its entirety and replace it with the following:

A. Reports and Drawings:
1. Section 00 31 32.13 identifies those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. The Supplementary Conditions identify those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

C. SC-4.02.B
1. Under paragraph 4.02.B, delete the second sentence "Such technical data is identified in the Supplementary Conditions".

D. SC-4.03
   1. Delete paragraph 4.03A in its entirety and substitute the following:
      A. Notification by Contractor, and processing by the Engineer and Owner of Contractor's claims of differing site conditions shall be done in conformance with P.A. 91-0647.

E. SC-4.05.A
   1. Under paragraph 4.05.A., delete first sentence and substitute the following:
      A. Owner shall provide land surveys necessary to establish right-of-way, easements and property lines. Engineer will provide base lines, bench marks and reference points which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall provide all stakes, markers, labor and assistance required by Engineer.

   2. Under paragraph 4.05.A, last sentence, insert the words "and pay" between the words "responsible" and "for".

1.5 ARTICLE 5 - BONDS AND INSURANCE

A. SC-5.02 through 5.10
   1. Delete paragraphs 5.02 through 5.10, inclusive in their entirety and substitute the following:

      5.02 Licensed Sureties and Insurers; Insurance Policies:

      A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Contractor shall be obtained from surety or insurance companies that are fully licensed or authorized in the jurisdiction in which the Project is located.

      5.03 Certificates of Insurance and Endorsements to Insurance Policies:

      A. In addition to delivering certificates of insurance in accordance with SC paragraph 2.01.B, Contractor shall also deliver to Owner, with copies to each additional insured, copies of all endorsements to the insurance policies which Contractor is required to purchase and maintain in accordance with paragraphs 5.04 and 5.06. All certificates of insurance and endorsements must be found acceptable by the Engineer prior to the Agreement being signed by the Owner. Certificate of Insurance and endorsements shall be fully completed, signed and delivered in accordance with the requirements of Article 5. Samples of Certificate of Insurance Form, and Additional Insureds endorsements, acceptable to Owner, are included in Sections 00 62 16, 00 62 16.13, 00 62 16.16, 00 62 16.19 and 00 62 16.21. Other acceptable endorsements for general liability endorsements may include a combination of CG 20 10 and CG 20 37 endorsements. Endorsements or general liability endorsements shall not exclude supervisory and inspection services.

5.04 Contractor's Insurance:

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance and furnishing of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed or furnished by Contractor, by any Subcontractor, or Supplier, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work or by anyone for whose acts any of them may be liable:

1. Workers' Compensation - Workers' Compensation in accordance with the laws of the State, but not less than:
   E.L. $1,000,000 each accident.
   E.L. $1,000,000 each employee.
   E.L. $1,000,000 policy limit.

2. General Liability
   (a) Bodily Injury Liability and Property Damage limit: $1,000,000.
   (b) Medical Expense limit: $10,000.
   (c) Personal and Advertising Injury limit: $1,000,000.
   (d) General Aggregate limit (other than P-CO): $2,000,000.
   (e) Products-Completed Operations Aggregate limit: $1,250,000.

3. Automobile Liability
   (a) $1,000,000 - Bodily Injury and Property Damage (Combined Single Limit).
   (b) Coverage shall include hired and non-owned automobiles.

4. Umbrella Liability - Umbrella Liability coverage in an amount not less than $5,000,000. Such coverage shall include, but not be limited to, excess coverage for the Workers' Compensation, General Liability, and Automobile Liability policies.

The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

5. Be furnished by insurers with A. M. Best Company rating of at least A-(Excellent), and a financial size category of VIII or greater.

6. With respect to general liability and umbrella liability insurance required by paragraph 5.04A, include as additional insured Owner, Engineer, and Engineer's Consultants, all of whom shall be listed on such policy by name as additional insureds through an endorsement thereto which provides for no different coverage to the additional insureds than to Contractor, and include coverage for the respective officers, directors, employees, agents and other

consultants of each and any of such additional insureds. The additional insured endorsements shall provide the following:

(a) that the coverage afforded the additional insureds will be primary and non-contributory insurance for the additional insureds with respect to claims arising out of operations performed by or on behalf of the Contractor;
(b) that coverage afforded the additional insureds shall not exclude claims asserted by Contractor's employees;
(c) that if the additional insureds have other insurance which is applicable to the loss, such other insurance will be on an excess or contingent basis;
(d) that the amount of Contractor's liability under the insurance policy will not be reduced by the existence of such other insurance.

7. Include contractual liability insurance covering Contractor's indemnity obligations under paragraphs 6.07, 6.11, and 6.20, including, but not limited to, all fees and charges of engineers, architects, attorneys and other professionals, and all court, arbitration, or other dispute resolution costs;

8. Remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing or replacing defective work in accordance with paragraph 13.06; and

9. With respect to completed operations insurance remain in effect for at least two years after final payment (and Contractor shall furnish Owner and any other additional insured to whom an insurance policy has been furnished evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 Section Reserved.

5.06 Section Reserved.

5.07 Cancellation or Change:

All the policies of insurance required to be purchased and maintained by Contractor in accordance with paragraphs 5.04 shall contain a provision or endorsement that the coverage afforded will not be cancelled or materially changed or renewal refused until at least 30 days' prior written notice has been given to Owner, Engineer, and to each other additional insured to whom an insurance policy has been furnished.

5.08 Additional Insureds:
Additional insureds referenced in paragraphs 5.04 and 5.07 shall be as follows:

Owner: City of Joliet, Illinois
Address: 150 West Jefferson Street, Joliet, Illinois 60432
Engineer: Baxter & Woodman, Inc.
Address: 8678 Ridgefield Road, Crystal Lake, Illinois 60012
Other: Canadian National Railroad
Address: 17641 South Ashland Avenue, Homewood, IL 60430
Other: Burns & McDonnell
Address: 200 West Adams Street; Suite 2700, Chicago, IL 60606

1.6 ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

A. SC-6.02.B
1. Under paragraph 6.02.B, add: The regular working hours are between 7:00 AM and 5:00 PM, Monday through Friday. In the event Contractor works more than eight hours on any weekday, or works anytime on Saturdays, Sundays, or holidays, during which time the Engineer, Resident Project Representative, or assistants are required to be present, Owner shall pay the cost for such overtime engineering services and shall deduct such cost from payments due Contractor. Overtime engineering services shall be charged at Engineer's standard hourly rates applied on a time and one-half basis for all time over eight hours on any single working day and for all hours on Saturday, and on a double time basis for all Sunday and holiday hours. If the amount due Contractor is not sufficient to cover the cost of overtime engineering services, Contractor shall reimburse Owner in the amount necessary to cover such costs. Legal holidays include:

New Years Day	Memorial Day
Independence Day	Labor Day
Thanksgiving Day	Christmas Day

If the legal holiday falls on Saturday, all hours worked on the preceding Friday and/or the Saturday will be considered as holiday hours. If the legal holiday falls on Sunday, all hours worked on the following Monday will be considered as holiday hours.

B. SC-6.06.A
1. Under paragraph 6.06.A, add: Any person employed by Contractor or Subcontractors who does not perform his work in a proper and skillful manner, or who is intemperate, disorderly, or otherwise objectionable, shall, at the written request of Owner, be forthwith removed from the project site and shall not be employed again in any portion of the Work without written consent of Owner.

C. SC-6.06.B

1. Under paragraph 6.06.B, add: Contractor shall identify all Subcontractors, major Suppliers and other persons or organizations providing principal items of work, material, and equipment. Contractor shall within ten working days of the date on the Notice of Award identify and submit in writing to the Engineer for Owner acceptance the names, addresses, and telephone numbers of all Subcontractors, Major Suppliers, and other persons or organizations providing principal items of work, material, and equipment.

D. SC-6.19.A

1. Delete paragraph 6.19.A in its entirety and substitute the following:

6.19.A Contractor shall execute and deliver to Owner, before the final payment will be issued, a written warranty which guarantees that all work is in accordance with the Contract Documents and will not be defective. This warranty shall guarantee all work for a period of three years from the date of acceptance of the Work and final payment by Owner, except for equipment, motors, electrical controls, and other mechanical devices which shall be guaranteed for a period of two years from the date of acceptance and use of each item of equipment by Owner unless a different guarantee period of time is specified under other parts of the Contract Documents.

If within these guarantee periods or such longer period of time as may be prescribed by the Contract Documents, any work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with nondefective work. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such repair and/or replacement of work, including compensation for additional professional services, shall be paid or reimbursed to Owner by Contractor.

Contractor shall furnish a warranty bond in an amount equal to five percent (5%) of the Contract Price, but not less than $10,000, by a surety satisfactory to Owner to guarantee Contractor's warranty to repair or replace defective work. The warranty bond shall be in addition to Contractor's contract Performance-Payment Bond, and shall be delivered to Owner prior to final payment to Contractor for the Work.

The warranty bond shall be in addition to Contractor’s contract Performance-Payment Bond, and shall be delivered to Owner prior to final payment to Contractor for the Work.

E. SC-6.20.A

1. Under paragraph 6.20.A, add:

In addition, Contractor shall indemnify, hold harmless, and pay for the defense of Owner and Engineer from and against claims, losses, or damages in regard to any act or failure to act by Owner or Engineer in connection with general supervision, observation and/or coordination of Contractor's operations.

Contractor shall, at its own expense, appear, defend, and pay all fees of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith; and, if any judgments shall be rendered against any individual or entity indemnified hereunder in any such action, Contractor shall, at its own expense, satisfy and discharge same. Contractor expressly understands and agrees that any Letter of Credit or insurance protection required by the Contract, or otherwise provided by Contractor, shall in no way limit the responsibility to indemnify, keep, and save harmless, and defend any individual or entity indemnified hereunder as herein provided.

F. SC-6.20.C

1. Delete paragraphs 6.20.C.1 and 6.20.C.2 and replace them with the following:

1. The preparation of Drawings, Specifications, or Property Surveys.

2. After paragraph 6.20.C, add the following:

D. For any matter for which Owner and Engineer are indemnified under Paragraph 6.20.A, Contractor shall pay for Owner’s and Engineer’s reasonable defense, including, but not limited to, all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs or awards until Owner or Engineer are found negligent. If Owner or Engineer are found negligent, Owner or Engineer shall reimburse Contractor for the prorata extent of Owner’s or Engineer’s negligence for the cost of Owner’s or Engineer’s reasonable defense.

E. In Paragraphs 6.20.A. through D. as may be amended by the Supplementary Conditions, Contractor shall indemnify the additional insureds listed in paragraph 5.08.

G. SC-6.21

1. Under paragraph 6.21, add two new subparagraphs:

F. The design professional providing the design calculations and design drawings shall be licensed in the State of Illinois.

G. The design calculation and design drawings are not shop drawings, but shall be submitted to Engineer separately along with the required shop drawings for the system, material, or equipment specified. These calculations will be forwarded to Owner for its records.

H. SC 6.22

1. Add new paragraph 6.22 as follows:

6.22 Construction Debris Manifest: Prepare documentation identifying the hauler, generator, place of origin of debris or soil, the weight or volume of debris or soil, and the location, owner, and operator of the facility where debris or soil was transferred, disposed, recycled or treated. This documentation must be maintained by the Contractor for three (3) years: (IL Public Act 90-761).

1.7 ARTICLE 8 - OWNER'S RESPONSIBILITIES

A. SC-8.06

1. Delete paragraph 8.06 in its entirety.

1.8 ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

A. SC-9.03

1. Under paragraph 9.03.A., delete the second sentence.
2. Under paragraph 9.03A add the following:

A LISTING OF THE DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE (RPR).

A. General

RPR is Engineer's agent at the site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's dealings in matters pertaining to the on-site work shall in general be with Engineer and Contractor keeping Owner advised as necessary. RPR's dealings with subcontractors will only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.

B. Duties and Responsibilities of RPR

1. *Schedules:* Review the progress schedule, schedule of the Shop Drawing submittals and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.

2. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

3. *Liaison:*
   a. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.
   b. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

4. *Shop Drawings and Samples:*
   a. Record date of receipt of Shop Drawings and samples.
   b. Receive samples which are furnished at the site by Contractor, and notify Engineer of availability of samples for examination.
   c. Advise Engineer and Contractor of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been approved by Engineer.

5. *Review of Work, Rejection of Defective Work, Inspections and Tests:*
   a. Conduct on-site observations of the Work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
   b. Report to Engineer whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made: and advise Engineer of Work that RPR believes should be corrected or rejected or uncovered for observation, or requires special testing, inspection and approval.
   c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; and observe, record and report to Engineer appropriate details relative to the test procedures and startups.
   d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Engineer.

6. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

7. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer. Transmit to Contractor decisions as issued by Engineer.

8. *Records:*
   a. Maintain at the job site orderly files for correspondence, reports of job conference, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.
   b. Complete a Daily Report recording Contractor hours on the job site, weather conditions, data relative to questions or Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send original to Engineer.
   c. Record names, address and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.

9. *Reports:*
   a. Furnish Engineer periodic reports as required of progress of the Work and the Contractor's compliance with the progress scheduled and schedule of Shop Drawings and sample submittals.
   b. Consult with Engineer in advance of schedule major tests, inspections or start of important phases of the Work.
   c. Draft Field Orders, obtain backup material from Contractor and recommend to Engineer Change Orders and Work Directive Changes. Furnish Engineer copies of all Field Orders.
   d. Report immediately to Engineer and Owner upon occurrence of any accident.

10. *Payment Requests:* Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values. Work completed and materials and equipment delivered at the site but not incorporated in the Work.

11. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that certificates, operation and maintenance manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Engineer for review and forwarding to Owner prior to final payment for the Work.

12. *Completion:*
    a. Before Engineer issues a Certificate of Substantial Completion, prepare and furnish to the Engineer a list of observed items requiring completion or correction.
    b. Conduct final inspection in the company of Engineer, Owner, and Contractor and prepare and furnish to the Engineer a final list of items to be completed or corrected.
    c. Observe that all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.

C. Limitations of Authority

Resident Project Representative:

1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Engineer.

2. Shall not exceed limitations of Engineer's authority as set forth in the Agreement or the Contract Documents.

3. Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.

4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures or construction unless such advice or directions are specifically required by the Contract Documents.

5. Shall not advise on, issue directions relative or assume control over safety precautions and programs in connection with the Work.

6. Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.

7. Shall not authorize Owner to occupy the Project in whole or in part.

8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Engineer.

1.9 ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

A. SC-12.04 through 12.06

1. Add the following paragraphs:

12.04 Start and Completion Times

The date of beginning and the time for completion of the Work are essential conditions of the Agreement and the Work required shall be commenced on a date specified in the Notice to Proceed.

12.05 Time for Completion

Contractor shall proceed with the Work at such rate of progress to insure full completion within the Contract Times. It is expressly understood and agreed, by and between the Contractor and the Owner, that the Contract Times for the completion of the Work described herein is a reasonable time, taking into consideration the adverse weather conditions for the season, or seasons, involved and other factors prevailing in the locality of the Work.

12.06 Liquidated Damages

Contractor understands that time is of the essence and that Owner will suffer financial loss if the Work is not completed within the times or by the dates specified in the Bid Form, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. Contractor also recognizes the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor shall pay Owner as liquidated damages for delay (but not as a penalty) $1,200 for each day that expires after the time or date specified in the Bid Form for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner $600 for each day that expires after the time or date specified in the Bid Form for completion and readiness for final payment. Liquidated damages accrued after the Substantial Completion date will be withheld from the project retention until the work is substantially completed. Liquidated damages accrued after the final completion date will also be withheld from the project retention until final completion is achieved. If the amount of project retention is not sufficient enough to cover the amount of accrued liquidated damages for substantial and final completion, further payments to the Contractor will be withheld until to the project is substantially and final completed. The Contractor agrees the Work shall be completed based on the interim milestones specified in Section 01 31 13.16.

12.07 Engineering Costs after Date for Substantial Completion
Contractor understands the Owner will have part-time Resident Project Representative labor costs and expenses after the date established for Substantial Completion. The Contractor understands and agrees to pay the difference between part-time and full-time Resident Project Representative labor costs, expenses, and overtime engineering costs, if any, required after the date established for Substantial Completion.

Owner will pay the cost for such engineering services, overtime engineering services, and out-of-pocket and mileage expenses; and shall deduct such cost from payments due Contractor. Overtime engineering services shall be charged at Engineer's standard hourly rates applied on a time and one-half basis for all time over eight hours on any single working day and for all hours on Saturday, and on a double time basis for all Sunday and Legal Holiday hours.

If the amount due Contractor is not sufficient to cover the cost of overtime engineering services, Contractor shall reimburse Owner in the amount necessary to cover such costs.

12.08 Engineering Costs after Date for Final Completion
Contractor understands the Owner will be required to pay for additional engineering time and expenses if the Work is not complete on or before the date established for Final Completion. The Contractor understands and agrees to pay for all engineering costs, including labor and expenses for full-time Resident Project Representative, including overtime engineering costs, required after the date established for Final Completion.

Owner will pay the cost for such engineering services, overtime engineering services, and out-of-pocket and mileage expenses; and shall deduct such cost from payments due Contractor. Overtime engineering services shall be charged at Engineer's standard hourly rates applied on a time and one-half basis for all time over eight hours on any single working day and for all hours on Saturday, and on a double time basis for all Sunday and Legal Holiday hours. If the amount due Contractor is not sufficient to cover the cost of overtime engineering services, Contractor shall reimburse Owner in the amount necessary to cover such costs

1.10 ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

A. SC-13.10
1. Add new paragraph 13.10 as follows:

13.10 Notification and Time Limit for Repairs:

A. Contractor shall be responsible for the proper and safe protection of his work at all times during construction and also during the three-year guarantee period after the acceptance of the completed work by Owner. Contractor shall provide, erect, and maintain barricades, red flags, and

torches and lights at all places where work is in progress, and wherever else required by Owner.

B. Contractor shall maintain an emergency phone number where he/she can be notified at any time, Sundays and holidays included, of an emergency condition due to the work which requires immediate repair or protection. Upon such notification by Owner, Contractor shall be given a two-hour time limit to provide whatever barricades, flags, torches and lights are required to mark and protect the hazard. If Contractor fails to provide this protection within the two-hour period from time of notification, Owner will provide the necessary protection and deduct the sum of $200.00 for each occurrence from the monies due and payable to Contractor for completed work.

C. Also, upon notification by Owner, Contractor shall be given a 24-hour time limit to begin to make any repairs to the Work as deemed necessary by Owner. If Contractor fails to proceed with necessary repairs within the 24-hour notification period, Owner will make the necessary repairs to the Work and deduct the cost of labor and materials, including engineering costs, for each repair incident from the monies due and payable to Contractor for completed work.

1.11 ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

A. SC-14.01

1. Add the following paragraph after paragraph 14.01.A:

B. Contractor shall submit revisions to the initial schedule of progress payments whenever actual outlays for the Work vary beyond -5 percent and +10 percent from the schedule, as determined by Engineer.

B. SC-14.02

1. Under paragraph 14.02.A.1, delete the remainder of the first sentence after "(but not more than one a month)" and insert the following:

Contractor shall submit to Engineer for review an original plus four duplicate copies of each Application for Payment and each copy shall be accompanied by a "Sworn Statement For Contractor And Subcontractor To Owner" on a pre-printed or computer generated form similar to Certificate 00 62 76.01.

2. Delete paragraph 14.02.A.3, and substitute the following:

Periodic partial payments shall be for the value of the completed work less a retained amount of 10 percent of the value of completed work as approved by Engineer until construction is 50 percent complete, after which no additional amount will be retained if Contractor is making progress to Owner's satisfaction and there is no specific cause for withholding 10 percent of the total value of completed work. When the project is substantially complete and available for Owner's operational or beneficial occupancy, the retained amount shall be

reduced to only that amount estimated by Engineer as necessary to assure completion of the Work, unless, in the opinion of the Engineer and Owner, Substantial and Final Completion will not be achieved by the designated completion dates established by the Notice to Proceed, as described by Article 12.06 of the Supplementary Conditions. The final payment, including the retained amount, shall be payable within 30 days after the completion of the Work, approval by Engineer and acceptance by Owner. The acceptance of the final payment by Contractor shall be considered to be a waiver of all claims against Owner under the Agreement.

C. SC-14.02.C

1. Delete paragraph 14.02.C.1. in its entirety, and replace with the following:
"1. Following presentation of each Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to the provisions of Paragraph 14.02.D) will be submitted to the Illinois Environmental Protection Agency (IEPA) for State Revolving Fund monies.
Upon receipt of funds from the IEPA, the Payment will become due, and when due will be paid by Owner to Contractor. The Contractor must submit step certifications and photo documentation of material for all iron and steel products in each Application for Payment to Owner."

D. SC-14.03

1. Under paragraph 14.03.A, add the following:

B. Contractor shall procure from each Subcontractor and Supplier of material or labor a waiver of any claim which they may have under the mechanics lien laws of the state in which the Work is located, to insure Owner immunity from mechanics liens on account of anything which is done by Contractor or his Subcontractors in carrying out the Agreement and any work orders for additions thereto, all as a condition of any payment by Owner. Any payments made by Owner without requiring compliance with this paragraph shall not be construed as a waiver by Owner of the right to require compliance with this paragraph as a condition of later payments. Contractor shall furnish with his final Application for Payment a complete release of all liens arising out of this contract, or receipts in full in lieu thereof and an affidavit that the releases and receipts include all labor and material for which a lien could be filed.

E. SC-14.07

1. Under paragraph 14.07.C, change "Thirty" to "Sixty".

1.12 ARTICLE 18 - EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION NOTICE

18.01 Equal Employment

A. Contractor shall comply with the following Equal Employment Opportunity - Affirmative Action Clause required by the Illinois Department of Human Rights:

1. In the event the Contractor's noncompliance with any provision of this Equal Employment Opportunity - Affirmative Action Clause, the Illinois Human Rights Act or the Department of Human Rights Rules and Regulations for Public Contracts, the Contractor may be declared nonresponsible and therefore ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be cancelled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance of the Work under this Agreement, the Contractor agrees as follows:
    a. That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further, that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
    b. That, if it hires additional employees in order to perform the Work under this Agreement, or any portion hereof, it will determine the availability (in accordance with the Department's Rules and Regulations for Public Contracts) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
    c. That it will have written sexual harassment policies that shall include, at a minimum, the following information: the illegality of sexual harassment; the definition of sexual harassment under State law; a description of sexual harassment, utilizing examples; the Contractor's internal complaint process including penalties; the legal recourse, investigative and complaint process available through the Department of Human Rights and the Illinois Human Rights Commission; directions on how to contact these State agencies; and protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act.
    d. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin, ancestry, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service.
    e. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations for Public Contracts. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Illinois Department of Human Rights and the contracting agency and will

recruit employees from other sources when necessary to fulfill its obligations thereunder.

f. That it will submit reports as required by the Illinois Department of Human Rights' Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.

g. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Illinois Department of Human Rights for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.

h. That it will include verbatim or by reference the provisions of Paragraphs a through h of this clause in every performance subcontract as defined in Section 1.1(17)(b) of the Department's Rules and Regulations so that such provisions will be binding upon every such Subcontractor; and that it will also so include the provisions of Paragraphs a, f, g, and h in every supply subcontract as defined in Section 1.1(17)(a) of the Department's Rules and Regulations so that such provisions will be binding upon every such Subcontractor. In the same manner as with other provisions of this Agreement, the Contractor will be liable for compliance with applicable provisions of this clause by all its Subcontractors, and further, it will promptly notify the contracting agency and the Illinois Department of Human Rights in the event any Subcontractor fails or refuses to comply therewith. In addition, no Contractor will utilize any Subcontractor declared by the Department to be nonresponsible and therefore ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations.

2. Contractor and Subcontractor shall in turn include this Equal Employment Opportunity - Affirmative Action Clause in each of its subcontracts verbatim or by reference so that the provisions of Paragraphs a through h of said clause will binding upon Subcontractors of every tier; provided, however, that only Paragraphs a, f, g, and h need be included in every subcontract as defined in Section 2.10(a) of the Rules and regulations of the Illinois Department of Human Rights.

1.13 ARTICLE 19 – PREVAILING WAGE RATES

A. SC-19.01 Prevailing Wage Rates

1. Contractor shall pay prevailing wages:
   a. In accordance with the Davis-Bacon Wage Act (40 USC 276a through 276a-5).
   b. At the rates determined by the United States Department of Labor as being not less than those prevailing under the Davis-Bacon Wage Act Provisions.
2. If the Department of Labor revises prevailing wage rates, the revised prevailing wage rates on the Department of Labor’s website (https://sam.gov) shall apply

to this contract and the Contractor will not be allowed additional compensation on account of said revisions. The Contractor shall review the wage rates applicable to the work of the contract at regular intervals to ensure timely payment of current wage rates. The Contractor agrees no additional notice is required. The Contractor shall be responsible to notify each subcontractor of the wage rates set forth in this contract and any revisions thereto.

3. It shall be mandatory upon the Contractor or construction manager to whom a contract for public works is awarded to post, at a location on the project site of the public works that is easily accessible to the workers engaged on the project, the prevailing wage rates for each craft or type of work or mechanic needed to execute the contract or project or work to be performed.
4. Contractor shall provide certified payroll records to the Department of Labor or other agencies as required each week to demonstrate compliance with regulations. The Contractor shall send a copy to the Owner if requested.

1.14 ARTICLE 20 – STEEL PRODUCTS PROCUREMENT

A. SC-20.01 Steel Products Procurement:
   1. Contractor shall comply with the provisions of Illinois Steel Products Procurement Act (30 ILCS 565/) as it may be amended from time to time.

1.15 ARTICLE 21 - EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT

A. SC-21.01 Comply with the provisions of the Employment of Illinois Workers on Public Works Act (30 ILCS 570/) as they may apply to this Project.

1.16 ARTICLE 22 – UNCONTAMINATED SOIL CERTIFICATION AND DISPOSAL

A. SC-22.01 Comply with the requirements of Sections 22.51(f)(2)(B) and 22.51a(d)(2)(B) of the Illinois Environmental Protection Act ([415 ILCS5/22.51(f)(2)(B)] and [415 ILCS5/22.51a(d)(2)(B)]) for the disposal of uncontaminated soils including uncontaminated soil mixed with other clean construction or demolition debris (CCDD) materials.

B. SC-22.02 Soils which cannot be certified as uncontaminated or soils that are found to be contaminated during the course of the Work shall be tested and disposed as required for Contaminated Waste Disposal.

END OF SUPPLEMENTARY CONDITIONS

PREVAILING WAGES

This contract shall be subject to the provisions of the Davis-Bacon Wage Act (40 USC 276a through 276a-5) as determined by the U.S. Department of Labor or the Illinois *Prevailing Wage Act* (820 ILCS 130/1 et seq.), whichever is greater.

For prevailing wage information, go to the City of Joliet website: https://www.joliet.gov/government/departments/finance/purchasing/prevailing-wage-information

For current prevailing wage rates, go to the State of Illinois website: https://labor.illinois.gov/laws-rules/conmed/current-prevailing-rates.html

If you cannot access or have difficulty retrieving the prevailing wage information, email purchasing@joliet.gov or call 815-724-3925 for assistance.

The Bidder is responsible for obtaining the most recent Davis-Bacon Act Wage Determination from the following website: https://sam.gov/

CERTIFICATE 00 74 23.01

DBE FORM #1 (CONTRACTOR CERTIFICATION)

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Disadvantaged Business Enterprise (DBE) Program
DBE Form #1 - Contractor Certification

(To be completed by all Prime Contractors)

Please check the appropriate boxes that apply and complete the information on the bottom of the form.

☐ This firm will award no subcontracts (including in the procurement of equipment, supplies, or services), in the performance of this contract.

☐ This firm advertised for DBE subcontractors according to the good faith efforts outlined in the IEPA DBE Guidance Document. Attach proof of publication in compliance with pertinent provisions of Disadvantaged Business Enterprise Participation Specifications in Section 00 21 00.41, BIDDER INSTRUCTIONS.

☐ This firm received proposals from DBE(s) that will not be utilized. A list of the DBEs not hired, along with their address, phone number, and reason(s) for non-utilization, is below.

Name of DBE	Address	Phone	Reason for Non-Utilization

☐ This firm did not receive any inquiries from DBEs.

I certify that the above is true. I further certify that this firm and its partners, directors, and officers do not possess a controlling interest in ownership or conflict of interest or any other authority to control the DBE to be used during the performance of the contracts.

Signature:_____ Name:_____

Date:_____ Title:_____

Company:_____

END OF CERTIFICATE 00 74 23.01

CERTIFICATE 00 74 23.02

DBE FORM #3 (SUBCONTRACTOR UTILIZATION)

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Disadvantaged Business Enterprise (DBE) Program
DBE Form #3 - Subcontractor Utilization

(Only complete this form if DBE subcontractors or sub-consultants will be working on the project)

This form is intended to capture the DBE subcontractor's description of work to be performed and the price of the work submitted to the prime contractor. All subcontractors must complete this form, and it must be included in the prime contractor's bid package.

Subcontractor Name	Project Name
Contact Person's Name & Title	
Address	
Telephone	Email
DBE Certified By	Select One: ◯ MBE ◯ WBE ◯ SBE ◯ DBE
Prime Contractor Name	
Type of Work to be Performed	Cost Estimate of Work

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to using the subcontractors above. I am aware that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 C.F.R. Part 33 Section 33.302(c).

Prime Contractor Signature	Printed Name
Date	Title
Subcontractor Signature	Printed Name
Date	Title

END OF CERTIFICATE 00 74 23.02

CERTIFICATE 00 74 23.03
DBE FORM #4 (BIDDER'S LIST)



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 •(217) 782-3397

Disadvantaged Business Enterprise (DBE) Program
DBE Form #4 - Bidders List

(List all DBE and non-DBE proposals submitted to Bidder)

Company Name & Contact Person	Address	Phone Number with area code	Email	Proposed Work (supplies, paint, etc.)	DBE Status
					○ MBE ○ WBE ○ SBE ○ DBE ☐ check if hired
					○ MBE ○ WBE ○ SBE ○ DBE ☐ check if hired
					○ MBE ○ WBE ○ SBE ○ DBE ☐ check if hired
					○ MBE ○ WBE ○ SBE ○ DBE ☐ check if hired

CERTIFICATE 00 74 23.04

BIDDER CERTIFICATION
IN COMPLIANCE WITH ARTICLE 33E-11 TO THE
"CRIMINAL CODE OF 2012"

I, _____, do hereby certify that:
Name

1. I am _____ of the _____
Position Name of Firm

and have authority to execute this certification on behalf of the firm;

2. This firm is not barred from bidding on this contract due to either a Bid-rigging or Bid Rotating violation as set forth in Article 33E-11 to the "Illinois Criminal Code of 2012 [720 ILCS 5/33E-11]."

Name of Firm _____

Signature _____

Title _____

Date _____

Corporate Seal (where appropriate)

On this _____ day of _____, 20 _____ before me appeared

(name) _____to me personally known, who, being duly sworn, did

execute the foregoing affidavit, and did state that he or she was properly authorized by (Name of

Firm) _____ to execute the affidavit and did so as

his or her free act and deed.

Notary Public _____ Commission Expires _____

Notary Seal

END OF CERTIFICATE 00 74 23.04

CERTIFICATE 00 74 23.05

U.S. ENVIRONMENTAL PROTECTION AGENCY

CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to federally assisted construction contracts and related subcontracts exceeding $10,000 which are not exempt from the Equal Opportunity clause.)

The federally assisted construction contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated based on race, creed, color, or national origin, because of habit, local custom or otherwise. The federally assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certification in his files.

Signature Date

Name and Title of Signer (Please type)

Firm Name

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

END OF CERTIFICATE 00 74 23.05

CERTIFICATE 00 74 23.06

NOTICE TO LABOR UNIONS OR OTHER ORGANIZATIONS OF WORKERS

NONDISCRIMINATION IN EMPLOYMENT

To: _____
(Name of union or organization of workers)

The undersigned currently holds contract(s) with _____
(Name of applicant)
involving funds or credit of the U.S. Government or (a) subcontract(s) with a prime contractor holding such contract(s).

You are advised that under the provisions of the above contracts(s) or subcontract(s) and in accordance with Executive Order 11246, as amended, dated September 24, 1965, as amended, the undersigned is obliged not to discriminate against any employee or applicant for employment because of race, color, creed or national origin. This obligation not to discriminate in employment includes, but is not limited to, the following:

HIRING, PLACEMENT, UPGRADING, TRANSFER OR DEMOTION, RECRUITMENT, ADVERTISING, OR SOLICITATION FOR EMPLOYMENT, TRAINING DURING EMPLOYMENT, RATES OF PAY OR OTHER FORMS OF COMPENSATION, SELECTION FOR TRAINING INCLUDING APPRENTICESHIP, LAYOFF OR TERMINATION.

This notice is furnished you pursuant to the provisions of the above contract(s) or subcontracts(s) and Executive Order 11246, as amended.

Copies of this notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

_____

_____

_____

_____
(Contractor or Subcontractor)

_____
(Date)

END OF CERTIFICATE 00 74 23.06

CERTIFICATE 00 74 23.07

EPA Project Control #

United States Environmental Protection Agency
Washington, DC 20460

Certification Regarding Debarment, Suspension and Other Responsibility Matters

The prospective participant to the best of its knowledge and belief that it and its principles:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to retain, or performing a public (Federal, State or local) transaction or contract under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be ground for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001 a false statement may result in fine of up to $10,000 or imprisonment for up to 5 years, or both.

(Typed Name & Title of Authorized Representative)

(Signature of Authorized Representative) **(Date)**

☐ I am unable to certify the above statements. My explanation is attached.

EPA Form 5700-49 (11-88)

Instructions

Under Executive Order 12549, an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program or subprogram hereunder for $25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or sub-agreement participant hereunder must complete the attached certification or provide an explanation why they cannot. For further details see 40CRF 32.510. Participants' responsibilities, in the attached regulation.

Where to submit

The prospective EPA grant, loan or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters or Regional Office, as required in the application instructions.

A prospective prime contractor must submit a completed certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a completed certification or explanation to the prime contractor for the project.

How to obtain forms:

EPA includes the certification form, instructions, and a copy of its implementing regulation (40 CRF Part 32) in each application kit. Applicants may reproduce these materials as needed to provide them to their prospective prime contractor, who, in turn may reproduce and provide them to prospective subcontractors.

Additional copies/assistance may be requested from:

Compliance Branch
Grants Administration Division (PM-216F)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460
(Telephone: 202-475-8025)

END OF CERTIFICATE 00 74 23.07

EPA Form 5700-49 (11-88)

Know Your Rights Under the Recovery Act!

Did you know?

The American Recovery and Reinvestment Act of 2009 [1] provides protections for certain employees of non-federal employers who make specified disclosures relating to possible fraud, waste and/or abuse or Recovery Act funds.

Who is protected?

Employees of non-federal employers receiving recovery funds. This includes State and local governments, contractors, subcontractors, grantees or professional membership organizations acting in the interest of recovery fund recipients.

How are Whistleblowers Protected?

You cannot be discharged, demoted or otherwise discriminated against as a reprisal for making a protected disclosure.

What types of disclosures are protected?

The disclosure must be made by the employee to the Recovery Accountability and Transparency Board, an Inspector General, the Comptroller General, a member of Congress, a state or federal regulatory or law enforcement agency, a person with supervisory authority over the employee, a court or grand jury, or the head of a federal agency or his/her representatives.

The disclosure must involve information that the employee believes is evidence of:

- gross mismanagement of an agency contract or grant relating to recovery funds;
- a gross waste of recovery funds;
- a substantial and specific danger to public health or safety related to the implementation or use of recovery funds;
- an abuse of authority related to the implementation or use of recovery funds; or
- a violation of law, rule, or regulation related to an agency contract or grant awarded or issued relating to recovery funds.

Take Action!

Log on to Recovery.gov for more information about your rights and details on how to report at www.recovery.gov.

[1] Section 1553 of Division A, Title XV of the American Recovery and Reinvestment Act of 2009, P.L. 111-5

EMPLOYEE RIGHTS
UNDER THE DAVIS-BACON ACT
FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

THE UNITED STATES DEPARTMENT OF LABOR WAGE AND HOUR DIVISION

PREVAILING WAGES — You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

OVERTIME — You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

ENFORCEMENT — Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

APPRENTICES — Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

PROPER PAY — If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor's Wage and Hour Division.

For additional information:

1-866-4-USWAGE

(1-866-487-9243) TTY: 1-877-889-5627

U.S. Wage and Hour Division

WWW.WAGEHOUR.DOL.GOV

U.S. Department of Labor | Employment Standards Administration | Wage and Hour Division

WH 1321 (Revised April 2009)

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division
Rev. Dec. 2008

OMB No.: 1215-0149
Expires: 12/31/2011

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐ ADDRESS

PAYROLL NO. | FOR WEEK ENDING | PROJECT AND LOCATION | PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT OR ST	(4) DAY AND DATE HOURS WORKED EACH DAY	TOTAL HOURS	(5) RATE OF PAY	(6) GROSS AMOUNT EARNED	(7) DEDUCTIONS FICA	WITH-HOLDING TAX		OTHER	TOTAL DEDUCTIONS	(8) NET WAGES PAID FOR WEEK
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"While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room 83502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

U.S. DEPARTMENT OF LABOR FORM 1215 PAYROLL
00 74 23.57-2

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____, all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Start. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE 31 OF THE UNITED STATES CODE.

LABOR STANDARDS INTERVIEW

CONTRACT NUMBER	EMPLOYEE INFORMATION		
	LAST NAME	FIRST NAME	MI
NAME OF PRIME CONTRACTOR			
	STREET ADDRESS		
NAME OF EMPLOYER			
	CITY	STATE	ZIP CODE
SUPERVISOR'S NAME			
LAST NAME / FIRST NAME / MI	WORK CLASSIFICATION	WAGE RATE	

ACTION	CHECK BELOW YES	NO
Do you work over 8 hours per day?		
Do you work over 40 hours per week?		
Are you paid at least time and a half for overtime hours?		
Are you receiving any cash payments for fringe benefits required by the posted wage determination decision?		

WHAT DEDUCTIONS OTHER THAN TAXES AND SOCIAL SECURITY ARE MADE FROM YOUR PAY?

	TOOLS YOU USE	
HOW MANY HOURS DID YOU WORK ON YOUR LAST WORK DAY BEFORE THIS INTERVIEW?		
DATE OF LAST WORK DAY BEFORE INTERVIEW *(YYMMDD)*		
DATE YOU BEGAN WORK ON THIS PROJECT *(YYMMDD)*		

THE ABOVE IS CORRECT TO THE BEST OF MY KNOWLEDGE

EMPLOYEE'S SIGNATURE	DATE *(YYMMDD)*

INTERVIEWER	SIGNATURE	TYPED OR PRINTED NAME	DATE *(YYMMDD)*

INTERVIEWER'S COMMENTS

WORK EMPLOYEE WAS DOING WHEN INTERVIEWED	ACTION *(If explanation is needed, use comments section)*	YES	NO
	IS EMPLOYEE PROPERLY CLASSIFIED AND PAID?		
	ARE WAGE RATES AND POSTERS DISPLAYED?		

FOR USE BY PAYROLL CHECKER

IS ABOVE INFORMATION IN AGREEMENT WITH PAYROLL DATA?

☐ YES ☐ NO

COMMENTS

CHECKER

LAST NAME	FIRST NAME	MI	JOB TITLE

SIGNATURE	DATE *(YYMMDD)*

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition not usable

STANDARD FORM 1445 (REV. 12-96)
Prescribed by GSA - FAR (48 CFR) 53.222(g)

SECTION 01 14 11

CONTRACTOR USE OF PREMISES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section applies to all situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Provide a list of names and identification of all persons to be entering the Owner’s property in connection with the Work of this Contract, and submit a copy of the list to the Owner at the preconstruction conference.
   1. Contractor shall provide the City of Joliet Human Resources Department (Contact Antoinette Graves, H.R. Generalist; Phone: 815.724.4015; Email: agraves@joliet.gov) the legal name, phone number, and a photograph of the workers that are proposed to go into houses or businesses to complete work and for workers who will regularly be communicating with the public.
   2. City of Joliet Human Resources Department will contact the workers to arrange for drug screening and background check at an independent vendor. Owner will pay the cost of this screening testing.
   3. City of Joliet will provide the workers with a contractor badge that is to be worn by the workers at all times. The contractor badges can be picked up a the Joliet City Hall Public Utilities Administration office at the second floor of City Hall, located at 150 W. Jefferson Street, Joliet, IL 60432. Contractors may call ahead (815.724.4220) to confirm badges are ready for pickup.
   4. Advise the Owner of personnel changes at project meetings.

1.3 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Do not store construction equipment, tools or materials on any area of the Owner's property except where shown on the Drawings as the "Contractor's Storage Area," or where otherwise directed by the Engineer.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 USE AND RESTORATION OF THE SITE

A. Clean all permanent roadways used for construction activities by using motorized street sweeper that utilizes vacuum and water to pick up debris, when directed by Engineer.

1.8 CONTRACTOR'S INGRESS AND EGRESS – (Reserved).

1.9 ACCESS TO OWNER'S FACILITIES – (Reserved).

1.10 PROTECTION OF EXISTING PROPERTY AND EQUIPMENT

A. Property:
   1. Take all necessary precautions to protect existing structures, piping, trees and all other facilities from damage during construction, and comply with Section 31 23 79, paragraph 3.2 of these Specifications.
   2. Repair or replace all property damaged during construction.

1.11 EMPTYING AND CLEANING EXISTING UNITS – (Reserved).

1.12 DISPOSAL OF SPOIL – (Reserved).

1.13 SECURITY – (Reserved).

END OF SECTION

SECTION 01 22 29

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Payment will be made for the Pay Items listed herein and at the Contract Unit Prices unless otherwise indicated.

B. Work for which a Pay Item is not listed will be considered incidental to the Contract and no additional compensation will be allowed.

C. The Owner reserves the right to alter the Drawings, modify incidental work as may be necessary, and increase or decrease quantities of work to be performed including deduction or cancellation of any one or more of the Pay Items.

D. Quantities necessary to complete the work as shown on the Drawings or as specified herein govern over those shown in the Bid Form. The Engineer will make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

E. The Engineer will make measurements and determinations as necessary to classify the work within Pay Items and determine the quantities for payment.

F. If the Contractor's Application for Payment is not in accordance with the Engineer's determination of quantities for payment, the Application will be returned for correction and resubmittal.

1.2 TRAFFIC CONTROL AND PROTECTION (5% LIMIT)

A. Description:

1. The work of this item consists of furnishing, installing, relocating, and maintaining traffic control devices for temporary control of vehicular and pedestrian traffic during construction. Use forms of traffic control on public roadways required by the construction operations in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", Articles 107.09 and 107.14 of the IDOT "Standard Specifications", and the "Highway Standards". The following work items are associated with and shall be considered incidental to, this work:
    a. Furnish, install, maintain, relocate, and remove traffic control devices.
    b. Furnish and use temporary flaggers.
    c. Furnish, place, and remove devices utilized for detours and construction safety.

d. Provide plans and schedules for detour and construction signage at Pre-construction Meeting for review and approval by Owner.
e. Provide and maintain temporary pavement markings (TAPE) until placement of final pavement markings.
f. Remove temporary pavement markings (TAPE) prior to installation of bituminous binder or surface courses.

2. This work will consist of installing, maintaining, and removing all necessary signs, barricades, plywood walkways, cold patch, wood framed hurricane fencing, etc. as needed to direct pedestrians to usable sidewalks and walkways and maintain those walkways during the construction. Alternate pedestrian walkways must be ADA compliant, be kept free of any obstructions and hazards such as holes, debris, mud, construction equipment, stored materials, etc., and must be broom swept daily or as directed by the City. Aggregate surface shall not be permitted for temporary pedestrian walkways. All hazards near or adjacent to walkways must be clearly delineated. The Contractor must maintain pedestrian access to abutting properties during construction. Pedestrian access to adjacent properties must be uninterrupted until the walk is fully restored. When construction activities involve sidewalks on both sides of the street, the work must be staged so that both sides of the street are not under construction at the same time, unless an alternate pedestrian route is provided.
   a. When the alternate pedestrian route is within the roadway it must be protected from live traffic by Longitudinal Channelizing Devices such as a concrete barrier or other crashworthy barrier as directed by the City.
   b. Illinois Standard Sign R11-1102 (Sign legend “Sidewalk Closed (Arrows) Use Other Side”: Size 24” x 30”; black legend on a white reflectorized background) must be placed at each end of the closed sidewalk section. Type I or Type II barricades must be installed in sufficient number to completely close the pathway.

B. Measurement:
1. This work will be measured as a lump sum, paid as a direct percentage of total project completion.
2. Extended time beyond the final completion date will be considered incidental to this work.
3. The amount of this Pay Item will be limited to five (5) percent of the sum of all other pay items. Should the bid for this Pay Item exceed five (5) percent, this Pay Item will be reduced to five (5) percent of the sum of all other pay items.

C. Basis of Payment:
1. This work will be paid for at the Contract Lump Sum Price for TRAFFIC CONTROL AND PROTECTION (5% LIMIT).

1.3 GRANULAR TRENCH BACKFILL

A. Description:

1. This work shall conform to Section 208 of the “Standard Specifications”. This item shall consist of furnishing, placing, compacting and transporting course aggregate gradation CA-6 or CA-7 for backfilling material for all trenches made within the roadway, driveways, sidewalks, and as directed by the Engineer. All compaction shall be not less than 85 percent optimum, modified proctor. The material shall conform to Article 1004.5. This item also includes the disposal of surplus excavated material which is replaced by trench backfill. Such disposal shall be made in accordance with Article 202.3 of the “Standard Specifications”.
2. The Contractor shall maintain trenches flush with existing surfaces until permanent patches are installed or roadway excavation has begun. No additional compensation will be provided to the Contractor for trench maintenance.
3. This Pay Item does not include furnishing pavement subgrade or pipe bedding and covering, which are incidental to other items.

B. Measurement:

1. The volume will be calculated by multiplying the linear feet of water main installed by the corresponding depth and diameter in the table below.
2. The average depth to the top of pipe shall be taken as the average depth from the existing ground surface to the top of the crown of the water main.
3. The table assumes a 4’ trench width and calculates the backfill volume from a point 12” above the top of pipe to a point 6” below the existing pavement surface.

C. Basis of Payment:

1. The work will be paid for at the Contract Unit Price per cubic yard for GRANULAR TRENCH BACKFILL. Quantities incorporated into this item shall be measured by either the Trench Backfill tables provided in the technical specifications for water main and casing pipe installation or the Trench Backfill table published by the State of Illinois, Department of Transportation, Division of Highways, Bureau of Construction for sewer replacements.

		VOLUME OF TRENCH BACKFILL (CU YD) PER LINEAL FOOT OF WATER MAIN								
Nominal Pipe Size		4"	6"	8"	10"	12"	14"	16"	20″	24"
Average Depth to Top of Pipe	2.0	**0.08**	**0.08**	**0.09**	**0.09**	**0.10**	**0.11**	**0.11**	**0.12**	**0.14**
	2.5	**0.11**	**0.12**	**0.13**	**0.14**	**0.15**	**0.16**	**0.17**	**0.19**	**0.29**
	3.0	**0.15**	**0.16**	**0.17**	**0.18**	**0.20**	**0.21**	**0.22**	**0.30**	**0.39**
	3.5	**0.18**	**0.20**	**0.21**	**0.23**	**0.38**	**0.40**	**0.42**	**0.45**	**0.48**

	VOLUME OF TRENCH BACKFILL (CU YD) PER LINEAL FOOT OF WATER MAIN								
Nominal Pipe Size	4"	6"	8"	10"	12"	14"	16"	20”	24"
4.0	**0.22**	**0.40**	**0.42**	**0.44**	**0.46**	**0.48**	**0.50**	**0.53**	**0.58**
4.5	**0.45**	**0.47**	**0.49**	**0.51**	**0.54**	**0.56**	**0.58**	**0.62**	**0.67**
5.0	**0.51**	**0.53**	**0.56**	**0.59**	**0.61**	**0.64**	**0.66**	**0.71**	**0.77**
5.5	**0.57**	**0.60**	**0.63**	**0.66**	**0.69**	**0.72**	**0.75**	**0.80**	**0.86**
6.0	**0.63**	**0.67**	**0.70**	**0.73**	**0.76**	**0.80**	**0.83**	**0.88**	**0.96**
6.5	**0.70**	**0.73**	**0.77**	**0.80**	**0.84**	**0.88**	**0.91**	**0.97**	**1.05**
7.0	**0.76**	**0.80**	**0.84**	**0.88**	**0.92**	**0.95**	**0.99**	**1.06**	**1.15**
7.5	**0.82**	**0.87**	**0.91**	**0.95**	**0.99**	**1.03**	**1.08**	**1.15**	**1.24**
8.0	**0.89**	**0.93**	**0.98**	**1.02**	**1.07**	**1.11**	**1.16**	**1.23**	**1.34**

	VOLUME OF TRENCH BACKFILL (CU YD) PER LINEAL FOOT OF CASING PIPE			
Nominal Pipe Size	16” Casing	24" Casing	30” Casing	36” Casing
Average Depth to Top of Pipe 2.0	**0.11**	**0.13**	**0.15**	**0.23**
2.5	**0.16**	**0.20**	**0.31**	**0.34**
3.0	**0.21**	**0.38**	**0.41**	**0.45**
3.5	**0.41**	**0.47**	**0.51**	**0.56**
4.0	**0.49**	**0.56**	**0.62**	**0.67**
4.5	**0.57**	**0.65**	**0.72**	**0.78**
5.0	**0.65**	**0.75**	**0.82**	**0.89**
5.5	**0.73**	**0.84**	**0.92**	**1.00**
6.0	**0.81**	**0.93**	**1.02**	**1.12**
6.5	**0.89**	**1.02**	**1.13**	**1.23**
7.0	**0.97**	**1.12**	**1.23**	**1.34**
7.5	**1.05**	**1.21**	**1.33**	**1.45**
8.0	**1.13**	**1.30**	**1.43**	**1.56**

1.4 WATER MAIN (OPEN CUT)

A. Description:

1. The work of this Pay Item consists of water main pipe and restrained joint type (RJT) water main pipe complete in place, including preconstruction video recording; sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; installation of pipe; bracing; bedding and covering of pipe; trench backfilling with and compaction of excavated materials; testing; disinfection, finish grading; but not including backfilling with granular backfill materials.
2. This Pay Item includes all restrained joint type (RJT) fittings complete in place as shown on the Drawings. Additional fittings not shown on the Drawings shall be paid for as MISCELLANEOUS FITTINGS.
3. This Pay Item includes RJT pipe on each side of a fitting or valve to be restrained to the length indicated on the Drawings, or if not shown on the Drawings, to the distance indicated on the Restrained Joint Type Pipe Length table included in the Standard Details or a minimum distance of not less than two factory length pipes on each side of a fitting or valve to be restrained.
    a. A restrained joint between two sections of pipe serves to restrain both pipe sections, and both sections of pipe would be considered RJT pipe.
4. Installing new mains in excess of 5 feet of cover in order to cross existing mains, provide for future improvements or cross below sewer lines is considered incidental to the installation of the water main, and no addition to the contract will be allowed.
5. This Pay Item includes polyethylene wrapping of all ductile iron pipe and fittings.
6. Removal and replacement of material, including unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to construction and no addition to the contract will be allowed.
7. Overexcavation, and removal and replacement of unsuitable materials with CA 1 greater than one foot below the bottom of the pipe barrel will be paid for in a separate Pay Item.
8. This Pay Item includes pipe insulation at locations indicated on the Drawings and as directed by the Engineer.
9. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.
10. The work of this Pay Item includes providing tracer wire, laid alongside PVC water main installed by open cut methods; installing tracer wire through structures such as valve vaults and fire hydrants; and providing connection points for testing devices in structures, alongside structures, or up to and alongside fire hydrants.

11. The work of this Pay Item includes providing and installing marking tape above water mains that are installed by open cut methods, including protection of the tape during backfill operations. Position warning tape at a distance above pipe, or at a depth below surface, as noted in the Specifications.
12. The City will provide initial field locating of sanitary service laterals. Secondary locates of sanitary services are to be performed by the Contractor as needed and is incidental to the cost of installation of water main. The City will provide GIS files of sanitary service locations to assist with the Contractor's secondary locating. This Pay Item does not include replacement, adjustment, or relocation of any sanitary services, which shall be paid for under ADJUSTING SANITARY SEWER SERVICE LINE.

B. Measurement:
1. The work will be measured in lineal feet along the centerline of the pipe.
2. The measurement will go through fittings and valves.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for WATER MAIN (OPEN CUT) of the pipe sizes and material, regardless of depth.

1.5 WATER MAIN (IN JACKED CASING)

A. Description:
1. The work of this Pay Item consists of water main pipe complete in place inside a steel casing pipe installed by jacking and mining; including providing both jacking and receiving pits; tight sheeting to protect adjacent utilities, roadways and property, or to provide protection to the public; leaving tight sheeting in place if indicated on the Drawings; protection, repair or replacement of utilities; traffic control; fencing of work site to provide protection to public; excavation; removal and disposal of waste excavated materials; bracing; dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; providing and jacking or ramming of casing pipe; providing and installing carrier pipe; grouting of voids between casing and casing excavation; supporting of carrier pipe within the casing; end seals; testing; backfilling with and compaction of excavated materials, or granular backfill materials if indicated on the Drawings; cleanup; and finish grading.
2. Removal and replacement of casing to achieve correct slope, elevation, and bearing will be done at no addition to the Contract.
3. Installation of short lengths of casing or carrier pipe because of limited working room will be done at no addition to the Contract.
4. Water main carrier pipe installed within the casing pipe is included in this Pay Item.
5. Selection of casing pipe diameter will be the Contractor's discretion, subject to the minimum size requirements listed in Section 33 05 23.43. No

additional compensation will be allowed for added setups required due to the casing pipe selected by the Contractor.

B. Measurement:
1. The work will be measured in lineal feet for the length of the casing pipe.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for WATER MAIN (IN JACKED CASING) of the casing and carrier pipe sizes and type specified, regardless of depth.

1.6 WATER MAIN (IN BORED CASING)

A. Description:
1. The work of this Pay Item consists of water main pipe complete in place inside a steel casing pipe installed by rock boring; including providing both drilling and receiving pits; tight sheeting to protect adjacent utilities, roadways and property, or to provide protection to the public; leaving tight sheeting in place; protection, repair or replacement of utilities; verifying the depth of bedrock at both excavation pit locations; traffic control; fencing of work site to provide protection to public; excavation; removal and disposal of waste excavated materials; bracing; dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; providing and boring of casing pipe; providing and installing carrier pipe; grouting of voids between casing and casing excavation; supporting of carrier pipe within the casing; end seals; testing; backfilling with and compaction of excavated materials, but not including backfilling with granular backfill materials when working within pavement ; cleanup; and finish grading.
2. Removal and replacement of casing to achieve correct slope, elevation, and bearing will be done at no addition to the Contract.
3. Installation of short lengths of casing or carrier pipe because of limited working room will be done at no addition to the Contract.
4. Verifying the depth of bedrock at both the drilling and receiving pit locations prior to installation to ensure the installation is entirely within bedrock is included in this Pay Item.
5. Bedrock excavation at pit locations shall be paid for as ROCK EXCAVATION.
6. Water main carrier pipe installed within the casing pipe is included in this Pay Item.
7. Selection of casing pipe diameter will be the Contractor’s discretion, subject to the minimum size requirements listed in Section 33 05 23.43. No additional compensation will be allowed for added setups required due to the casing pipe selected by the Contractor.

B. Measurement:
1. The work will be measured in lineal feet for the length of the casing pipe.

C. Basis of Payment:
   1. The work will be paid for at the Contract Unit Price per lineal foot for WATER MAIN (IN BORED CASING) of the casing and carrier pipe sizes and type specified, regardless of depth.

1.7 CASING PIPE (OPEN CUT)

A. Description:
   1. The work of this Pay Item consists of installing steel, ductile iron or PVC casing pipes for sewer pipes, force mains, or water mains to meet water and sewer separation requirements, complete in place by open cut method, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, repair or replacement of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; installation of casing; installation and support of carrier pipe within casing; sandfilling of void between casing and carrier pipes if noted on Drawings; end seals; backfilling with compacted excavated materials; but not including backfilling with granular backfill materials.
   2. This Pay Item does not include providing or testing the pipe within the casing pipe, which is paid for under separate Pay Items.

B. Measurement:
   1. The work will be measured in lineal feet for the length of the casing pipe.
   2. Engineer will field verify casing lengths when separation of sewer and water is required.

C. Basis of Payment:
   1. The work will be paid for at the Contract Unit Price per lineal foot for CASING PIPE (OPEN CUT).

1.8 MISCELLANEOUS FITTINGS

A. Description:
   1. The work of this Pay Item consists of any additional fittings necessary to alter or adjust the water main as directed by the Engineer. All fittings shown and/or called out by the plans shall be incidental to the cost per lineal foot of WATER MAIN (OPEN CUT). Any fitting indicated on the plans which is deleted will be credited against any claim for payment under MISCELLANEOUS FITTINGS, pound for pound. The Owner shall not in any case request a net credit under this provision.

B. Basis of Payment:
   1. The work will be paid for at the Contract Unit Price per pound for MISCELLANEOUS FITTINGS.

1.9 CONNECT TO WATER MAIN (NON-PRESSURE)

A. Description:
1. The work of this Pay Item consists of connecting to existing water mains, including removal of existing plugs; cutting and removing existing mains; thrust blocking; excavation; bracing; bedding and covering of pipe; trench dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; including backfilling with compacted granular backfill materials where required.
2. This Pay Item includes installation and removal of temporary thrust blocking and temporary plugs and coordination of shutdown of main with Owner and Engineer during final connection.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each CONNECTION TO EXISTING WATER MAIN (NON-PRESSURE) of the pipe sizes.

1.10 CONNECT TO WATER MAIN (PRESSURE)

A. Description:
1. The work of this Pay Item consists of pressure connections to existing water mains complete in place, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; trench dewatering, including erosion and sedimentation control for discharge resulting from all pumping operations; protection, replacement, or repair of utilities; tapping of pipe; tapping valves and tapping sleeves; all required fittings; bracing; testing corps and copper; bedding and covering of pipe; testing; disinfection; finish grading; and including backfilling with granular backfill materials; but not including valve vaults.
2. This Pay Item includes installation and removal of temporary thrust blocking and temporary plugs and coordination of shutdown of main with Owner and Engineer during final connection.
3. The City of Joliet Water Department shall do the actual tapping of the main. The Contractor will be responsible for calling 815-724-4230 to schedule an appointment with the City Water Department. Appointments are available on Tuesdays and Thursdays.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each CONNECT TO EXISTING WATER MAIN (PRESSURE) of the pipe and valve sizes.

1.11 GATE VALVE

A. Description:
1. The work of this Pay Item consists of gate valves complete in place, but not including fire hydrant auxiliary valves or tapping valves.

2. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each GATE VALVE of the valve sizes.

1.12 BUTTERFLY VALVE

A. Description:
1. The work of this Pay Item consists of butterfly valves complete in place, but not including fire hydrant auxiliary valves.
2. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each BUTTERFLY VALVE of the valve sizes.

1.13 SILENT CHECK VALVE

A. Description:
1. The work of this Pay Item consists of silent check valves complete in place.
2. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each SILENT CHECK VALVE of the valve sizes.

1.14 VALVE BOX

A. Description:
1. The work of this Pay Item consists of valve boxes complete in place, including polyethylene wrapping of valve box; valve box stabilizer; but not including fire hydrant auxiliary valves.

B. Basis of Payment:
1. The work will be paid for at the contract Unit Price for each VALVE BOX.

1.15 VALVE VAULT

A. Description:
1. The work of this Pay Item consists of the installation of valve vaults during open cut water main installation complete in place as outlined in the

technical specifications and on plan details, including sawcutting, removal and disposal of existing pavements; excavation in excess of that required for standard pipeline trench construction; removal and disposal of waste excavated materials; bracing, sheeting, and shoring; protection, replacement, or repair of utilities; dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all pumping operations; vault bedding; monolithic type vault base with watertight flexible pipe connectors where pipes enter vault wall; manhole risers as required to provide proper depth; concentric cone or flat top cover; frame and cover adjusting rings; frame and cover; steps; backfilling with compacted excavated materials in parkways, and compacted granular materials under pavements; and including frame and cover adjustment to final grade at time of street or parkway restoration.

2. Provide eccentric cones only on vaults utilized for tapping of existing mains, or when indicated on the Drawings.
3. This Pay Item includes providing vaults of sufficient depth to provide the standard depth of cover indicated on the drawings, plus two feet, measured from the top of the water main to the top of the frame and cover. If depth of cover is 5 feet, vaults to a depth of 7 feet from top to main to top of frame and cover will be installed with no addition to the contract allowed. Where deeper vaults are installed, the cost for additional manhole risers required will be paid for in a separate Pay Item.
4. This Pay Item including providing and installing cast iron frames and covers with self-sealing lids on all valve vaults.
5. This Pay Item includes providing exterior joint protection on all valve vaults.

B. Basis of Payment:

The work will be paid for at the Contract Unit Price for each VALVE VAULT, of the size indicated.

1.16 VALVE VAULT (SPECIAL) 8-FT X 12-FT

A. Description:

1. All labor, equipment, and materials required to furnish and install the precast concrete valve vault complete in place, precast concrete wall, top and bottom slab waterproof joints, exterior joint protection, access hatches, cast iron manhole frames and covers with self-sealings lids, manhole steps, pipe supports, and all required appurtenances for a complete installation.
2. Pay item includes excavation for valve vault, dewatering, removal and disposal of waste excavated materials, bracing, sheeting and shoring as required, vault bedding with structural fill, installation of the vault, backfilling of excavated materials around the vault structure and exterior piping to grade; and seed restoration of excavated valve vault and piping installation.
3. Pay item includes all labor, equipment, and material required for installation and pressure testing of the two (2) 24” diameter flanged silent check valves and the 24” diameter flanged and mechanical joint DI piping to within 3 ft of the vault exterior walls, including watertight, flexible pipe connectors

where the pipes enter the vault. Included is the 24” DI pipe trench bedding, backfill, and seed restoration.

4. Pay item includes all labor, equipment, and materials required for installation of the 24” DIP water main greater than 3-ft beyond the valve vault structure (including the 24” bypass piping) is to be paid under the relevant Pay Items associated with the installation of the WATER MAIN (OPEN CUT), 24-INCH, including excavation, backfilling, testing, and restoration.

B. Basis of Payment

1. The work be paid for at the Contract Lump Sum Price for VALVE VAULT (SPECIAL), 8-FOOT X 12-FOOT” as a direct percentage of total project completion. Procurement and delivery of the two (2) 24” silent check valves to be paid under the Contract Unit Price for SILENT CHECK VALVE, 24-INCH.

1.17 VALVE VAULT (ADDITIONAL DEPTH)

A. Description:

1. The work of this Pay Item consists of providing additional manhole risers for water valve vaults where the depth of cover is over the standard depth described in the pay item for VALVE VAULTS.
2. Depth of a standard valve vault is stated as within two vertical feet of the water main depth of cover, measured from top of main to top of cover, in other words, if standard depth of water main is indicated as 5 feet, a vault measuring 7 feet from top of main to top of frame and cover is a standard vault and no additional compensation will be allowed.

B. Measurement:

1. The work will be measured in vertical feet from the top of the water main to the top of the frame and cover, and the amount over the depth of cover plus 2 feet will be the amount of measurement, in even feet.

C. Basis of Payment:

1. The work will be paid for at the Contract Unit Price per vertical foot of VALVE VAULT (ADDITIONAL DEPTH), of the valve vault diameter indicated.

1.18 FIRE HYDRANT

A. Description:

1. The work of this Pay Item consists of fire hydrants complete in place, including excavation; bracing; bedding and covering of pipe; auxiliary gate valve and valve box; thrust blocking; hydrant barrel drain washed stone pocket; support; trenching dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities;

and including backfilling with granular backfill materials where connecting pipe is below pavement.

2. This Pay Item includes polyethylene wrapping of connecting pipe, auxiliary valve, and hydrant.
3. This Pay Item includes providing a fire hydrant of sufficient height to position the hydrant nozzles and break-away flange to the elevations indicated in the technical specifications and plan detail. Contractor will determine the proper “bury” height based on water main size and depth of bury.
4. Where depth of water main is required to be greater than standard bury depth, fire hydrant extensions will be paid for as FIRE HYDRANT BARREL EXTENSION.
5. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Basis of Payment:

1. The work will be paid for at the Contract Unit Price for each FIRE HYDRANT.

1.19 FIRE HYDRANT BARREL EXTENSION

A. Description:

1. The work of this Pay Item consists of providing barrel extensions for fire hydrants when existing or future final grade conditions result in the water main being deeper than the specified depth of bury, including determining the appropriate extension height and extension necessary, and installation of extension.

B. Measurement:

1. The work will be measured in vertical foot of extension, determined by the amount added to the fire hydrant bury dimensions outlined in Pay Item FIRE HYDRANT.
2. Extensions utilized to obtain the proper amount “bury” on fire hydrants when the water main is not deeper than the specified depth of bury will not be paid for.

C. Basis of Payment:

1. The work will be paid for at the Contract Unit Price for vertical foot of FIRE HYDRANT BARREL EXTENSION, to the nearest foot.

1.20 LINE STOP

A. Description:

1. The work of this Pay Item consists of the installation of a line stop in an existing water main complete, including locating of existing main; sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, repair, or

replacement of existing utilities; dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all pumping operations; sheeting; shoring; tapping of pipe to install temporary line stop bladder; installation of line stop; and temporary fencing, barricades, and other items needed to provide traffic control and protection and to protect excavation while new valve is being installed.

2. Prior to placing the line stop, the water main to which the line stop apparatus will be attached to shall be disinfected with chlorine. The line stop sleeve and all other components shall be disinfected with chlorine.
3. The work of this Pay Item includes removal of the line stop bladder, and capping of the tapping valve once new main valve is in place; backfilling of the excavation with compacted granular trench backfill material; but not including surface restoration.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each LINE STOP, of the size indicated.

1.21 FILLING OF EXISTING PIPE FOR ABANDONMENT

A. Description:
1. The work of this Pay Item shall be completed in accordance with Section 31 23 79 and shall consist of filling existing water main pipe within railroad right-of-way with Low Density Cellular Grout, including concrete brick and mortar plugs; temporary plugging of pipes and subsequent removal of temporary plugs; providing fill, vent, and drain holes in the concrete brick and mortar plugs; and all labor, equipment, and materials.

B. Method of Measurement:
1. The work will be measured in cubic yards of Low Density Cellular Grout used to fill the water main pipes.
2. Measurement quantity for pipes will be the volume of pipe determined by the length of pipe from inside face of a structure or cut end to inside face of a structure or cut end, and the nominal inside diameter of the pipe.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per cubic yard for FILLING OF EXISTING PIPE FOR ABANDONMENT.

1.22 ABANDONMENT OF EXISTING WATER MAINS AND APPURTENANCES

A. Description:
1. The work of this Pay Item consists of the abandonment of existing water main, valves, vaults, and fire hydrants including installing plugs and/or caps on existing mains where portions of the existing main are to be abandoned after the new main is in service; coordination of shut-down of mains with Owner and Engineer; excavation and re-excavation of locations; removal

of fire hydrant and auxiliary valve box; removal of valve box; removal of frame and cone section of valve vault; protection, replacement, or repair of utilities; removal and disposal of waste excavated materials; cutting of mains; installation of plugs or caps; concrete thrusts blocks; backfilling and compaction of excavated materials or granular trench backfill materials in pavements.

2. This work shall include all labor, materials and equipment necessary to remove an existing fire hydrant and auxiliary valve box. Contractor shall excavate a minimum of 3' and saw cut and remove riser pipe.
3. This work shall include all labor, materials, and equipment necessary to remove an existing valve box in its entirety as shown on the plans. Contractor shall be responsible for off-site disposal of valve box.
4. This work shall include all labor, materials, and equipment necessary to remove the frame and cone section of the vault. Remainder of the vault is to be filled with trench backfill which will be considered incidental to this item. Contractor shall be responsible for off-site disposal of valve vault.
5. Deliver valves, valve boxes, fire hydrants, and frames and lids to the Owner at 921 Washington Street, Joliet, Illinois.
6. Installation of concrete plugs in abandoned water mains or crimping of water services at the edge of the trench area is considered incidental to the installation of the new water main.
7. Removal and disposal of existing water main that must be removed in order to install the new water main or services is considered incidental to construction.
8. Length of dead end main shall be no greater than two times the outside diameter of the main.
9. This work shall include abandonment of existing water main pipes within sanitary structures, including cutting and removing the existing water main within the sanitary structure, grinding within 1-inch of the manhole structure wall, and installation of concrete or brick and mortar plugs. It is estimated that there are 2 occurrences of existing water mains within sanitary structures.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each of the items specified for ABANDONMENT OF EXISTING WATER MAINS AND APPURTENANCES, of the type and location noted.

1.23 WATER SERVICE CONNECTION TO WATER MAIN AND CURB STOP

A. Description:
1. The work of this Pay Item consists of connecting water service lines to the water mains complete in place, including service saddles; corporation stops; curb stops; service boxes; and all required fittings.
2. The tap into the existing public water main will be performed with the approval of the City of Joliet.
3. This Pay Item includes connecting to the curb stop within meter pits, where meter pits are encountered.

4. Water service connection trenches and pits shall be restored at the end of each work day.
5. Notify the City's Public Utilities Department if existing lead water services are discovered.
6. The work of this Pay Item includes all labor, equipment and materials required to remove the top section of existing b-boxes located by the Contractor and as required by the Engineer.
7. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Basis of Payment:

The work will be paid for at the Contract Unit Price for each WATER SERVICE CONNECTION TO WATER MAIN AND CURB STOP of the service pipe sizes, and the item noted.

1.24 WATER SERVICE LINE TYPE K

A. Description:

1. The work of this Pay Item shall include furnishing and installing all materials required to lay water service piping in accordance to Sections 41-2.11c and 41-2.12 of the "Standard Specifications for Water and Sewer Construction in Illinois current Edition". The work consists of water service pipe complete in place, by horizontal directional drilling method and open cut method, including excavation; bracing; bedding and covering of pipe; trench dewatering; trench backfilling with excavated materials; testing; disinfection; finish grading; removal and disposal of waste excavated materials; protection, and replacement or repair of utilities.
2. Embedment up to one foot above the pipe and earthen backfill shall be included in the cost per lineal foot of water service line.
3. Water service will be installed by horizontal directional drilling method under street pavements and for all rear yard service replacements, and open cut methods at connection points to water main and existing service pipe.
4. The open cut method includes backfilling with compacted granular backfill materials.
5. All service lines shall have a minimum depth of 54", unless otherwise approved by the Engineer.
6. Installing new services in excess of 5 feet of cover in order to cross existing mains, provide for future improvements or cross below sewer lines is considered incidental to the installation of the service, and no addition to the contract will be allowed.
7. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Measurement:

1. The work will be measured in lineal feet along the centerline of the pipe.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for WATER SERVICE TYPE K – OPEN CUT or WATER SERVICE LINE TYPE K – DIRECTIONAL DRILLING of the water service sizes specified.

1.25 WATER SERVICE CASING PIPE

A. Description:
1. The work of this Pay Item consists of installing casing pipes for water service pipes to meet water and sewer separation requirements, complete in place by open cut method, including sawcutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, repair or replacement of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations; installation of casing; installation and support of carrier pipe within casing; end seals; backfilling with compacted excavated materials; but not including backfilling with granular backfill materials.

B. Measurement:
1. The work will be measured in lineal feet for the length of the casing pipe.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for WATER SERVICE CASING PIPE, of the size indicated.

1.26 PROJECT MANAGEMENT

A. Description:
1. The work of this Pay Item shall include all supervision work associated with coordinating and performing the water service installation at a given property. A three-hour allotment will be allowed for each property. This work will include contacting the owner, meeting with the property owner to layout the installation, obtaining property owner signature on City agreement form, payment plan, no participation form or sample refusal form, providing City with sketch of proposed and as-built installation, scheduling the work, delivering water filter pitcher and brochure to private property owner, and any follow-up meetings to explain the installation. No additional compensation will be allowed for the management of the project.
2. This pay item is only applicable when new water service location is required or when an existing lead service is discovered.
3. Photographs or video shall be taken at each property prior to the start of construction work to document the pre-existing conditions.
4. Monthly invoices should provide a breakdown of items and cost per property. Costs associated with preparing this breakdown shall be incidental to the contract.

B. Basis of Payment:

1. This work will be paid for 1 hour for each property where the property declines to participate and for up to 3 hours for each property where a water service is installed on private property. This work will be paid for at the Contract Unit Price per hour for PROJECT MANAGEMENT. No additional compensation will be allowed.

1.27 WATER SERVICE LINE TYPE L

A. Description:

1. This work shall include furnishing and installing all materials required to connect existing interior plumbing to new water service location. All fittings required to complete this work shall be considered incidental.
2. This item is only applicable when an existing lead service is discovered.

B. Basis of Payment:

1. The work will be paid for at the Contract Unit Price per lineal foot for WATER SERVICE LINE TYPE L for the size specified.

1.28 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – BASEMENT OR CRAWL SPACE

A. Description:

1. This item shall include furnishing and installing all materials required to connect to the existing water service on interior of home up to the water meter. The Contractor shall core drill the existing foundation wall to allow for penetration by the 1” copper water service pipe. The Contractor shall install a PVC sleeve in the foundation to protect the copper service pipe. The interior and exterior of the cored hole shall be completely sealed with hydraulic cement to prevent water infiltration. The Contractor shall exercise caution to prevent damaging the existing foundation. The Contractor shall be responsible for repairing any damage to the foundation caused by the coring operation. The Contractor shall be responsible for moving and restoring any items on the interior of the home that infringe upon the work. The Contractor is responsible for any modifications to the interior plumbing necessary to install new water service. New interior water shut-off valves (ball valves) shall be installed on either side of meter. If existing meter is determined to be in need of replacement, Contractor shall install new meter provided by City.
2. This pay item is only applicable when new water service location is required or when an existing lead service is discovered.
3. The Contractor shall be responsible for removing any debris generated by the work on the interior and exterior of the building and restore the area around the water service as nearly as practicable to its original condition.
4. This work shall also include abandoning the existing water service line in place. The existing plumbing shall be capped.

5. This work shall include all labor, equipment and materials required to excavate and crimp existing water service in order to complete interior water service connection at locations approved by Engineer where both the curb stop and interior shut-off are broken or where curb stop cannot be located. This work will be considered incidental.
6. This item includes submittal of all required paperwork as outlined in Appendix B – Lead Service Line Improvements Forms. All documentation must be submitted in order to receive payment for the subject addresses.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each WATER SERVICE CONNECTION ON PRIVATE PROPERTY – BASEMENT OR CRAWL SPACE.

1.29 WATER SERVICE CONNECTION ON PRIVATE PROPERTY – SLAB

A. Description:
1. This item shall include furnishing and installing all materials required to connect to the existing water service on interior of home up to the water meter. The Contractor shall saw cut and remove a portion of the slab or core drill the slab to allow for penetration by the 1” copper water service pipe at the existing water service location. The Contractor shall install a PVC sleeve in the foundation when restoring the slab to protect the copper service pipe. The interior and exterior of the cored hole shall be completely sealed with hydraulic cement to prevent water infiltration. The Contractor shall exercise caution to prevent damaging the existing foundation. The Contractor shall be responsible for repairing any damage to the foundation caused by the work. The Contractor shall be responsible for moving and restoring any items on the interior of the home that infringe upon the work. The Contractor is responsible for any modifications to the interior plumbing necessary to install new water service. New interior water shut-off valves (ball valves) shall be installed on either side of meter. If existing meter is determined to be in need of replacement, Contractor shall install new meter provided by City.
2. This pay item is only applicable when new water service location is required or when an existing lead service is discovered.
3. The Contractor shall be responsible for removing any debris generated by the work on the interior and exterior of the building and restore the area around the water service as nearly as practicable to its original condition.
4. This work shall also include abandoning the existing water service line in place. The existing plumbing shall be capped.
5. This work shall include all labor, equipment and materials required to excavate and crimp existing water service in order to complete interior water service connection at locations approved by Engineer where both the curb stop and interior shut-off are broken or where curb stop cannot be located. This work will be considered incidental.

6. This item includes submittal of all required paperwork as outlined in Appendix B – Lead Service Line Improvements Forms. All documentation must be submitted in order to receive payment for the subject addresses.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each WATER SERVICE CONNECTION ON PRIVATE PROPERTY – SLAB.

1.30 UTILITY LOCATION – PRIVATE PROPERTY

A. Description:
1. This work shall include all labor, equipment and materials associated with locating the existing water and sewer services on private property. Where locates are not provided for the water service, sewer service, or buffalo box, the Contractor shall complete locating services for means of installing new service line.
2. This pay item is only applicable when new water service location is required or when an existing lead service is discovered.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each UTILITY LOCATION – PRIVATE PROPERTY.

1.31 WATER METER RELOCATION

A. Description:
1. This work shall include all labor and materials required to relocate existing water meter to new water service entry point into home. Meter shall be located immediately upon entrance of the service pipe into the home approximately 3’ off the ground. Meter shall be installed such that it is accessible for maintenance. Contractor to provide and install new shut-off valves (ball valves) on each side of the meter, drain connection between two shut-off valves, and #4 solid copper grounding wire between upstream and downstream with bronze ground clamps. Contractor shall install AMR wire to outside face of building. AMR (Automated Meter Reading) wire will be provided to Contractor by City. City staff will relocate AMR.
2. This pay item is only applicable when new water service location is required or when an existing lead service is discovered.
3. This item includes submittal of all required paperwork as outlined in Appendix B – Lead Service Line Improvements Forms. All documentation must be submitted in order to receive payment for the subject addresses.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each WATER METER RELOCATION.

1.32 WATER METER REPLACEMENT

A. Description:

1. This work shall include all labor and materials required to replace existing water meter to new water service entry point into home. Meter shall be located immediately upon entrance of the service pipe into the home approximately 3' off the ground. Meter shall be installed such that it is accessible for maintenance. Contractor to provide and install new shut-off valves (ball valves) on each side of the meter, drain connection between two shut-off valves, and #4 solid copper grounding wire between upstream and downstream with bronze ground clamps. Contractor shall install AMR wire to outside face of building. AMR (Automated Meter Reading) wire will be provided to Contractor by City. City staff will relocate AMR.
2. Ally, iPERL, and Accustream meters with digital LCD readers should not be replaced. Accustream meters with ICE register may be replaced only if not programmed for 8-digit read (see Appendix H). All brass type meters encountered shall be replaced.
3. This item is only applicable when an existing lead service is discovered.
4. This item includes submittal of all required paperwork as outlined in Appendix B – Lead Service Line Improvements Forms. All documentation must be submitted in order to receive payment for the subject addresses.

B. Basis of Payment:

1. The work will be paid for at the Contract Unit Price for each WATER METER REPLACEMENT.

1.33 LANDSCAPING PROJECT MANAGEMENT

A. Description:

1. The work of this Pay Item shall include the Contract meeting with each homeowner prior to any work being performed on private property in order the make the homeowner aware of the area(s) to be disturbed and the impact to the landscaping. Contractor shall explain the homeowner's options for restoration of landscaping. Homeowners will be offered a $450 allowance to accept the basic restoration and complete the final landscaping on their own. If homeowners accept this option, the Contractor is to secure waivers provided by the City from the residents and submit application forms to the City on the owner's behalf. Alternatively, the homeowner can request the Contractor complete the landscaping.
2. This item is only applicable when an existing lead service is discovered.

B. Basis of Payment:

1. This work will be paid for as 2 hours for each home where a water service is installed on private property at the contract unit price per hour for LANDSCAPING PROJECT MANAGEMENT. No additional compensation will be allowed.

1.34 LANDSCAPING RESTORATION ALLOWANCE

A. Description:

1. This work shall include all cost to restore the disturbed area at each location to its original condition. The contractor shall salvage existing materials to reuse or provide new materials to match the existing. The contractor shall protect all landscaping to be salvaged until the material is transplanted.
2. This item is only applicable when an existing lead service is discovered.
3. An allowance of $450 is provided to perform the necessary restoration at each area of disturbance. Itemized bills for each location shall be submitted. Locations requiring an overrun of the $450 allowance shall be approved by the city before work proceeds. The landscaper shall have the flexibility to restore the landscaping or change the surrounding area within the cost allowance as directed by the homeowner. Multiple bushes can be planted in replacement for single bushes.
4. Lawn Restoration will be incidental to the project. The contractor shall take every measure to protect the existing lawn by laying work mats or plywood sheathing. Damage caused by the contractor will be restored at the contractor's expense. Restoration will consist of raking in pulverized topsoil (minimum of 3"), over seeding the disturbed areas and installing blanket or straw netting.
5. No additional compensation will be allowed for replacement of dead vegetation or call backs due to the ground settling. The General Contractor shall ensure that all parties perform the work in a workmanlike manner in order to prevent claims for these items and other foreseeable items.
6. Modifications to the existing landscaping requested by the homeowner will be allowed under this contract. Additional work requested by the homeowner will be paid directly by the homeowner. The contract unit price will be deducted from the contract. Separate payment will be made to the landscaping contractor as an allowance to cover the City's obligation to restore the area. The homeowner and contractor shall submit to the City a Notice of Intent (Contractor's Proposal Form) to have the landscaping modified prior to this work being performed along with a waiver from the homeowner. The City of Joliet will be released from any claims or disputes between the Landscaper and Homeowner.
7. This contract shall include the option to owners to receive a 'LANDSCAPING CREDIT' or cash allowance from the City of $450.00 to perform any restoration on their own. For any residence electing to receive the Landscaping Credit, the owner of the property gives up any claim against the contractor or City for landscaping, whether existing or replaced, which dies. A release form will be provided by the City for the owner to sign. Restoration at the location will be limited to compacting and leveling disturbed areas and placing grass seed in lawn areas. The Contractor shall secure the owners' signature on the release and submit to the City prior to the Credit being issued.
8. This item is only applicable when an existing lead service is discovered.

B. Basis of Payment:
1. This work will be paid for as LANDSCAPING RESTORATION ALLOWANCE not to exceed the contract allowance amount of $450. Payment will be made after the work is completed or the terms of the homeowner agreement are completed.

1.35 SHRUB AND BRUSH DISPOSAL

A. Description:
1. The work of this Pay Item shall include removal and disposal of shrubs and bushes from private property in order to install new water services.
2. This item is only applicable when an existing lead service is discovered.

B. Basis of Payment:
1. The work will be paid for per location at the contract unit price each for SHRUB AND BRUSH DISPOSAL.

1.36 CRIMP WATER SERVICE

A. Description
1. This work shall include all labor, equipment and materials required to excavate and crimp existing water service in order to complete interior water service connection at locations approved by Engineer where both the curb stop and interior shut-off are broken or where the curb stop cannot be located. This work shall be considered incidental for exterior water service connections.

B. Basis of Payment:
1. The work will be paid for at the contract unit price each for CRIMP WATER SERVICE.

1.37 CLEARING

A. Description
1. This work shall be done in accordance with Section 201 of the Standard Specifications, except as modified herein.
2. Clearing work, within City right-of-way, shall consist of removal and disposal of such obstructions as shrubs, bushes, saplings, trees and stumps of a diameter less than six (6) inch.
3. Clearing work shall also include a relocation/stockpiling of existing, to be reused by property owners, hindrances (boulders, markers, ties, etc.) interfering with utility installation work.
4. Clearing work shall also include removal and disposal off of existing, and not to be reused by property owners, edge of road protecting temporary features (wheel stops, boulders, markers, ties, etc.) interfering with utility installation work.

B. Measurement:
1. This work will be measured as a lump sum, paid as a direct percentage of total project completion.

C. Basis of Payment:
1. The work of this Pay Item will be paid for at the Contract Lump Sum Price for CLEARING.

1.38 REMOVE AND REPLACE DRAIN TILES

A. Description:
1. This work shall include all labor, equipment and materials required to remove and replace existing drain lines on private property that are damaged during installation of new water service lines. New drain tiles shall be PVC, SDR 26.
2. This Pay Item covers pipe sizes as listed in the Bid Form, since the actual size and location of the tiles is unknown.

B. Measurement:
1. The work will be measured along the centerline of the drain tile replaced, for the length of the replacement.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot as REMOVE AND REPLACE DRAIN TILES, of the size range indicated.

1.39 ADJUSTING SANITARY SEWER SERVICE LINE

A. Description:
1. The work of this Pay Item shall be completed in accordance with the latest edition of the “Standard Specifications for Water and Sewer Construction in Illinois”, and shall consist of the removal and replacement, or adjustment and relocation, of sanitary sewer service lines in conflict with the water main at crossing locations complete in place, including connections to the existing service lines; couplings; excavation; bracing; bedding and covering of pipe; trench dewatering; finish grading; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; and backfilling with granular backfill materials.
2. The work shall include either the removal and replacement of service pipe at the existing location, slope, and elevation of the existing service pipe; or the vertical adjustment of the existing service pipe to cross below the water main.
    a. Adjustment and relocation will require replacement of enough sanitary sewer service pipe to obtain an adequate elevation difference to cross below the water main with positive slope toward the main line sewer.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each ADJUSTING SANITARY SEWER SERVICE LINE, regardless of the depth, length, size, or pipe material of the sanitary sewer service.

1.40 SANITARY SEWER REMOVAL AND REPLACEMENT

A. Description:
1. The work of this Pay Item consists of the removal and replacement of existing sanitary sewers with green or white water main quality PVC pipe conforming to ASTM D2241, SDR 26, including sawcutting, and removal and disposal of existing pavement; protection, repair or replacement of utilities; excavation; removal and disposal of waste excavated material; trench dewatering, including erosion and sedimentation control; watertight connections to existing pipes or structures; installation of pipe; bracing, bedding and covering of pipe; granular trench backfill material at pipe crossing and below all pavement; and cleanup.
2. Comply with the requirements of Section 33 11 43 of these Specifications wherever new water main crosses sewers or sewer service connections or is installed parallel within 10 feet horizontally of any sewer or drain.

B. Measurement:
1. The work will be measured in lineal feet along the centerline of the sanitary sewer removed and replaced.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for SANITARY SEWER REMOVAL AND REPLACEMENT, of the size and type indicated.

1.41 SANITARY SEWER, 12-INCH D3034 PVC

A. Description:
1. The work of this Pay Item consists of utilizing SDR 26 PVC piping with ASTM D3034 rubber ring gasket bell end or plain end elastomeric gasket couplings per ASTM F477 as sanitary sewer pipe complete in place, including preconstruction video recording; sewer bypassing, saw cutting, and removal and disposal of existing pavements; excavation; removal and disposal of waste excavated materials; protection, replacement, or repair of utilities; trench dewatering, including erosion and sedimentation control methods and devices to provide protection to the environment from all sewer bypass pumping operations; installation of pipe; bracing; bedding and covering of pipe; trench backfilling with and compaction of excavated materials; testing; finish grading; but not including backfilling with granular backfill materials.
2. The work of this Pay Item includes removal and replacement of material, including unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to construction, and no addition to the

contract will be allowed. Over-excavation and removal and replacement of unsuitable materials with CA 1 greater than one foot below the bottom of the pipe barrel will be paid for in a separate Pay Item.8. This Pay Item includes pipe insulation at locations indicated on the Drawings and as directed by the Engineer.

3. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.
4. The work of this Pay Item includes providing and installing marking tape above sanitary sewers that are installed by open-cut methods, including protection of the tape during backfill operations. Position warning tape at a distance above pipe or at a depth below the surface, as noted in the Specifications.
5. This Pay Item does not include replacement, adjustment, or relocation of any sanitary services, which shall be paid for under ADJUSTING SANITARY SEWER SERVICE LINE.
6. Connections to sanitary manholes will be paid through Pay Item TYPE A SANITARY MANHOLE.

B. Measurement:
1. The work will be measured in lineal feet along the centerline of the pipe.
2. The measurement will not go through sanitary manholes. Connections to Type A sanitary manholes will be paid through Pay Item TYPE A SANITARY MANHOLE.

C. Basis of Payment:
1. The work shall be paid for at the contract unit price per FOOT for SANITARY SEWER, 12-INCH D3034 PVC.

1.42 TYPE A SANITARY MANHOLE

A. Description:
1. All labor, equipment, and materials required to furnish and install the precast concrete sanitary sewer manhole during the 12” sanitary sewer installation complete in place as outlined in the technical specifications and on plan details; exterior joint protection; manhole risers; cast iron manhole frames and covers with self-sealings lids; manhole steps; watertight flexible pipe connectors for connecting sewer pipes to manhole; and all required appurtenances for a complete installation.
2. Pay item includes excavation for manhole; dewatering; removal and disposal of waste excavated materials; bracing, sheeting and shoring as required; manhole bedding with structural fill; temporary pumping of sewage around work area if necessary to complete work; installation of the manhole; backfilling of excavated materials around the structure and exterior piping to grade; and seed restoration of excavated manhole and piping installation.
3. Provide eccentric cones on all sanitary manholes.

4. This Pay Item including providing and installing cast iron frames and covers with self-sealing lids on all manholes.
5. This Pay Item includes providing exterior joint protection on all sanitary manholes.
6. The work of this Pay Item includes all labor and equipment required to obtain and submit all real-time utility GIS updates in accordance with DIGITAL UTILITY DATA COLLECTION.

B. Measurement:
1. The depth of manholes will be measured from the invert of the outlet sewer to the top of the frame.

C. Basis of Payment:
1. The work will be paid for at the Contract Price for each TYPE A SANITARY MANHOLE, of the manhole sizes and depth range.

1.43 STORM SEWER REMOVAL AND REPLACEMENT

A. Description:
1. The work of this Pay Item consists of the removal and replacement of existing storm sewers green or white water main quality PVC pipe conforming to ASTM D2241, SDR 26, including sawcutting, and removal and disposal of existing pavement; protection, repair or replacement of utilities; excavation; removal and disposal of waste excavated material; trench dewatering, including erosion and sedimentation control; watertight connections to existing pipes or structures; installation of pipe; bracing, bedding and covering of pipe; granular trench backfill material at pipe crossing and below all pavement; and cleanup.
2. Comply with the requirements of Section 33 11 43 of these Specifications wherever new water main crosses sewers or sewer service connections or is installed parallel within 10 feet horizontally of any sewer or drain.

B. Measurement:
1. The work will be measured in lineal feet along the centerline of the storm sewer removed and replaced.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal foot for STORM SEWER REMOVAL AND REPLACEMENT, of the size and type indicated.

1.44 EXPLORATORY EXCAVATION

A. This Pay Item shall cover all costs associated with performing an exploratory excavation where requested by the Engineer, including equipment; labor; materials; and trench backfill where required.

B. Basis of Payment:
   1. The work will be paid for at the Contract Unit Price per each EXPLORATORY EXCAVATION.

1.45 INLET PROTECTION FILTER

A. Description:
   1. The work of this Pay Item consists of providing and installing inlet protection filters; and removal of filters at the conclusion of the project.

B. Basis of Payment:
   1. This work will be paid for at the Contract Unit Price per each INLET PROTECTION FILTER.

1.46 RESTORATION OF LAWNS AND PARKWAYS

A. Description:
   1. The work of this Pay Item consists of complete surface restoration of lawns, parkways, and other grassed areas disturbed as a result of the construction, including topsoil, lime, fertilizer, erosion control materials, seeding, and maintenance.

B. Measurement:
   1. The work will be measured in lineal feet along the centerline of the pipe and the area computed in square yards, with a maximum allowable width of 6 feet for main line pipe and maximum width of 6 feet for service pipes.
   2. Areas damaged by or disturbed beyond the work area will be restored at no additional cost to Owner.

C. Basis of Payment:
   1. This work will be paid for at the Contract Unit Price per square yard for RESTORATION OF LAWNS AND PARKWAYS.

1.47 SLOPE RESTORATION, IDOT CLASS 3 SEED

A. Description:
   1. Restoration shall consist of furnishing and placing 4” of topsoil, Type 3 seed (Northern Illinois Slope Mix), and heavy duty erosion control blanket.
   2. The area shall be brought to grade with spoils from the water main and sanitary sewer main trench. If this quantity of spoils is insufficient, then additional spoils shall be furnished.
   3. This work shall include all material, equipment, and labor to perform the work.

B. Measurement:
   1. Slope restoration will be measured in place and the area computed in square yards.

C. Basis of Payment:
1. This work shall be paid for at the contract unit price per square yard for SLOPE RESTORATION, IDOT CLASS 3 SEED.

1.48 GEOTECHNICAL FABRIC FOR GROUND STABILIZATION

A. Description:
1. This work shall consist of the installation of geotechnical fabric for ground stabilization and shall include all material, equipment, and labor necessary to complete this work to the satisfaction of the Engineer.

B. Measurement:
1. Geotechnical fabric will be measured in place and the area computed in square yards.

C. Basis of Payment:
1. This work shall be paid for at the contract unit price per square yard for GEOTECHNICAL FABRIC FOR GROUND STABILIZATION.

1.49 TEMPORARY HOT-MIX ASPHALT PAVEMENT

A. Description:
1. The work of this Pay Item consists of temporary hot-mix asphalt pavement complete in place at pipelines, including subgrade preparation, for use during the period between backfilling the trench and constructing the permanent pavement.
2. Install temporary hot-mix asphalt pavement only at high traffic areas such as intersections and as directed by the Engineer.

B. Measurement:
1. The work will be measured in lineal feet along the centerline of the pipe and the quantity computed in square yards, with a maximum width of 6 feet used for payment calculations.
2. All areas disturbed shall be restored, but the maximum allowable trench widths used for pay quantity calculations will be 6 feet centered on the pipe. If the Contractor chooses to relocate the trench farther away from the curb and gutter, the pavement patch will extend from the sawcut in the existing pavement to the face of the gutter and the maximum allowable width of 6 feet will be used for pay quantity calculations. If the Owner or Engineer relocates the trench away from the curb and gutter, additional quantities will be calculated based on the actual trench width as approved by the Engineer.
3. Areas damaged due to Contractor's neglect or beyond the maximum pay width will not be measured for payment.

C. Basis of Payment:
1. This work will be paid for at the Contract Unit Price per square yard for TEMPORARY HOT-MIX ASPHALT PAVEMENT regardless of the depth of the pipeline.

1.50 HOT-MIX ASPHALT REMOVAL AND REPLACEMENT

A. Description:
1. The work of this Pay Item consists of replacing street pavement that has been removed as part of the water main work. Restoration will consist of hot-mix asphalt binder course and hot-mix asphalt surface course of the thicknesses specified, installed within the trench limits to match the existing surface. The following items are associated with and shall be considered incidental to this Pay Item:
a. All quality control testing in accordance with Article 1030.05(d).
b. Prime coat applications.
c. Sawcutting to provide clean, straight edges is mandatory, regardless of the number of times required.
d. Subgrade improvements, as directed by the Engineer.

B. Measurement:
1. Street restoration of trenches will be measured in place and the area computed in square yards.
a. The length will be measured down the centerline of the pipe.
b. All areas disturbed shall be restored, but the maximum allowable trench widths used for pay quantity calculations will be 6 feet centered on the pipe. If the Contractor chooses to relocate the trench farther away from the curb and gutter, the pavement patch will extend from the sawcut in the existing pavement to the face of the gutter and the maximum allowable width of 6 feet will be used for pay quantity calculations. If the Owner or Engineer relocates the trench away from the curb and gutter, additional quantities will be calculated based on the actual trench width as approved by the Engineer.

C. Basis of Payment:
1. The street pavement restoration at water main and sewer trenches will be paid for at the Contract unit price per square yard of the thicknesses indicated as HOT-MIX ASPHALT REMOVAL AND REPLACEMENT.

1.51 HOT-MIX ASPHALT SURFACE MILL AND OVERLAY OVER PATCHES

A. Description:
1. The work of this Pay Item consists of milling and overlaying HMA surface in areas beyond the trench limits. Restoration will consist of hot-mix asphalt surface course of the thickness specified to the nearest curb or to the street center line, as shown on the plans or as directed by the Engineer and match

the existing pavement or curb gutter surface. The following items are associated with and shall be considered incidental to this Pay Item:

a. All quality control testing in accordance with Article 1030.05(d).
b. Prime coat applications.
c. Sawcutting to provide clean, straight edges is mandatory, regardless of the number of times required.
d. Milling and disposal of existing HMA surface material.
e. Replacement of HMA surface course to top of existing pavement surface.

B. Measurement:

1. Street surface milling and resurfacing will be measured in place and the area computed in square yards, as directed by the Engineer.

C. Basis of Payment:

1. The street surface milling and overlaying will be paid for at the Contract unit price per square yard of the thickness indicated as HOT-MIX ASPHALT SURFACE MILL AND OVERLAY OVER PATCHES.

1.52 HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT

A. Description:

1. The work of this Pay Item consists of consists of constructing hot-mix asphalt driveway aprons to match current City standards. The following work items are associated with and shall be considered incidental to, this Pay Item:

a. All quality control testing in accordance with Article 1030.05(d).
b. Excavate and dispose of existing subgrade material to proposed subgrade elevation.
c. Prepare Subgrade.
d. Replace steel edging if applicable.
e. Install minimum 3” aggregate Base Course.
f. Install Bituminous Materials (Prime Coat).
g. Place hot-mix asphalt Surface Course, (3-inch compacted depth).
h. Utilize driveway mix for Surface Course if so directed by Engineer.

B. Measurement:

1. Driveway removal and replacement will be measured in place prior to removal, and the area computed in square yards.
2. Additional quantities of driveway, subbase, or subgrade removed due to neglect by the Contractor, as determined by the Engineer, will not be measured for payment.

C. Basis of Payment:

1. This work will be paid for at the Contract Unit Price per square yard for HOT-MIX ASPHALT DRIVEWAY REMOVAL AND REPLACEMENT, of the thickness indicated in the Specifications.

1.53 PCC DRIVEWAY REMOVAL AND REPLACEMENT

A. Description:
   1. The work of this Pay Item consists of constructing Portland Cement Concrete driveway and subgrade as directed by the Engineer. The following work items are associated with, and shall be considered incidental to, this Pay Item:
      a. All quality control testing in accordance with Article 1020.09.
      b. Excavate and dispose of existing subgrade material to proposed subgrade elevation.
      c. Prepare Subgrade.
      d. Replace steel edging if applicable.
      e. Install minimum 3” aggregate Base Course.
      f. Install 6 x 6-W4.0 x W4.0 welded wire fabric.
      g. Install Portland Cement Concrete.
      h. Apply Protective Coat.

B. Measurement:
   1. Driveway removal will be measured in place prior to removal, and the area computed in square yards.
   2. Additional quantities of driveway, subbase, or subgrade removed due to neglect by the Contractor, as determined by the Engineer, will not be measured for payment.

C. Basis of Payment:
   1. This work will be paid for at the Contract Unit Price per square yard for PCC DRIVEWAY REMOVAL AND REPLACEMENT, of the thickness indicted in the Specifications.

1.54 GRAVEL DRIVEWAY REMOVAL AND REPLACEMENT

A. Description:
   1. The work of this Pay Item consists of removal and complete restoration of aggregate driveways as part of the trenching work, including removal and disposal of existing pavement materials, sawcutting, and subgrade preparation.
   2. Aggregate driveways will consist of 8 inches of CA 6-100 percent crushed aggregate.

B. Measurement:
   1. Aggregate driveways will be measured in the field and the areas computed in square yards. A maximum width of 6 feet per driveway crossing will be utilized for calculations unless otherwise noted on the drawings.
   2. Additional quantities of driveway removed due to neglect by the Contractor, as determined by the Engineer, will not be measured for payment.

C. Basis of Payment:
1. This work will be paid for at the Contract Unit Price per square yard for GRAVEL DRIVEWAY REMOVAL AND REPLACEMENT.

1.55 CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

A. Description:
1. The work of this Pay Item consists of removing the existing concrete curb and gutter and replacing it with combination concrete curb and gutter where removal is necessary to allow work shown on the plans to be built, or as directed by the Engineer. Contractor shall match existing curb Type and shall meet existing curb line and grade. The following work items are associated with, and shall be considered incidental to, this Pay Item.
a. All quality control testing in accordance with Article 1020.09.
b. Sawcut existing curb and gutter, including steel reinforcement.
c. Break, remove, and dispose of existing curb and gutter.
d. Prepare aggregate Base Course below curb and gutter.
e. Install Combination Concrete Curb and Gutter.
f. Install all expansion joints, contraction joints, slip dowels, and tie bars.
g. Install Protective Coat.
h. Provide handicap ramps at sidewalks and depressed curb at driveways.

B. Measurement:
1. Curb and Gutter Removal and Replacement will be measured in place in place in lineal feet along the flow line of the gutter from full-depth sawcut to full-depth sawcut, with a maximum pay quantity of 10 lineal feet per crossing or impacted area, unless otherwise noted on the Drawings.
2. Curb and gutter damaged by the Contractor during construction operations beyond the limits described above, will be replaced but will not be measured for payment.
3. The repair of adjacent pavement, driveways, sidewalks, and landscaping is included in this item unless specifically identified for separate payment on the Drawings.

C. Basis of Payment:
1. This work will be paid for at the Contract Unit Price per lineal foot for CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT.

1.56 PCC SIDEWALK REMOVAL AND REPLACEMENT

A. Description:
1. The work of this Pay Item consists of constructing sidewalks to match existing. The following work items are associated with, and shall be considered incidental to this Pay Item:
a. All quality control testing in accordance with Article 1020.09.
b. Excavate and dispose of existing materials.

c. Install 4 inches of compacted Aggregate Base Course.
d. Form and pour Portland cement concrete sidewalk.
e. Remove forms and backfill areas adjacent to concrete sidewalk.
f. Apply protective coat.

B. Measurement:
1. Portland Cement Concrete Sidewalk will be measured in place, and the area computed in square feet, up to the limits indicated on the Drawings.
2. A maximum width of ten lineal feet per crossing will be utilized for pay quantity calculations.
3. Sidewalk damaged by the Contractor during construction operations beyond the maximum limits will be replaced but will not be measured for payment.

C. Basis of Payment:
1. This work will be paid for at the Contract Unit Price per square foot for PCC SIDEWALK REMOVAL AND REPLACEMENT of the material thicknesses indicated in Section 32 10 00.

1.57 DETECTABLE WARNINGS

A. Description:
1. The work of this Pay Item includes constructing detectable warnings with cast-in-place detectable warnings comprised of 24” by 24” square cast iron plates. The panel shall comply with ADA requirements and span the full width of the ramp. The domes located on the plate shall be parallel to the pavement crosswalk with the closest corner at the back of curb. Installation shall be according to the manufacturer’s recommendations.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit price per square foot for DETECTABLE WARNINGS.

1.58 PAVEMENT MARKING

A. Description:
1. The work of this Pay Item consists of complete replacement of pavement marking, lines, letters, or symbols of the patterns, sizes, and colors.
2. Replace all pavement markings removed or damaged within the limits and construction, as shown on the Drawings, as recorded on the "Job Set" plan prior to removal, or as directed by the Engineer. This work shall be done as specified in Sections 780, 781, and 783 of the IDOT "Standard Specifications", and Section 32 10 00 of these Specifications.

B. Measurement:
1. The work will be measured in lineal feet of line, or in square feet for letters and symbols.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per lineal feet for line, of the widths indicated, and per square foot for letters or symbols as PAVEMENT MARKING, of the type noted.

1.59 RAISED REFLECTIVE PAVEMENT MARKER

A. Description:
1. The work of this Pay Item consists of placing permanent snowplow resistance raised reflective pavement markers at locations of existing markers or at locations indicated by the Owner; sawcutting and epoxy sealing complying with all requirements of IDOT Sections 780, 781 and 782.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each RAISED REFLECTIVE PAVEMENT MARKER.

1.60 REMOVAL AND REPLACEMENT OF SIGNS

A. Description:
1. This work includes furnishing all materials, equipment, and labor necessary to remove and re-install traffic signs that interfere with work to install new water main. All signs shall be carefully salvaged and placed near the area from which they were taken. Any signs damaged by the Contractor shall be replaced at the Contractor’s expense with signs matching the existing signs.

B. Basis of Payment:
1. This work will be paid for at the contract unit price per each REMOVAL AND REPLACEMENT OF SIGNS.

1.61 FENCE TO BE REMOVED AND RE-ERECTED

A. Description:
1. The work of this Pay Item shall include of the removal and re-erection of fence segments. The fence shall be removed so that all materials considered suitable by the Engineer for future use will be salvaged. The salvaged material shall be stored at locations and in a manner approved by the Engineer. Any of the material having salvage value and which has been damaged by the Contractor, shall be replaced by the Contractor at his/her own expense with new material of the same kind. The salvaged fence shall be re-erected in accordance with Section 664 of the “Standard Specifications”.
2. Limits of this work must be approved by the Engineer prior to fence removal.

B. Basis of Payment:
1. This work will be paid for at the contract unit price per linear foot for FENCE TO BE REMOVED AND RE-ERECTED, and measured along the top of the fence from center to center of end posts, which price shall include payment for all excavation and backfilling.

1.62 TREE ROOT PRUNING

A. Description:
1. The work of this Pay Item consists of root pruning using an approved mechanical root pruning saw prior to excavating around the tree and where indicated on the Drawings or as directed by the Engineer; and in such a manner as to preserve the natural growth habit of each tree complete including an equivalent amount of the top vegetative growth of the plant material within one week following root damage, the application of fertilizer nutrients, and supplemental watering. Root pruning depth to be 12" minimum.

B. Basis of Payment:
1. The work will be paid for at the Contract Unit Price for each TREE ROOT PRUNING.

1.63 TREE TRIMMING

A. Description:
1. The work of this Pay Item consists of trimming of trees and designated by the Engineer.
2. The Contractor must walk the site with the Engineer prior to initiating trimming operations, and receive approval for limits of trimming.
3. Only that amount of tree trimming necessary to complete the work will be allowed, and the Contractor must visit the site to determine the amount of clearing that will be necessary to complete the work and therefore base the Bid.

B. Basis of Payment:
1. The work will be paid for at the Contract Lump Sum Price for TREE TRIMMING.

1.64 REMOVE AND REPLACE GUARDRAIL

A. Description:
1. This work shall consist of removal and replacement of steel plate beam guardrails. This work shall be in accordance with Sections 630 and 632 of the "Standard Specifications for Road and Bridge Construction" adopted January 1, 2023.

B. Measurement:
1. This work will be measured for payment in feet along the top edge of the rail elements, continuous through laps and splices.
2. Limits of this work must be approved by the Engineer prior to guardrail removal.

C. Basis of Payment:
1. This work will be paid for at the Contract Unit Price per foot for REMOVE AND REPLACE GUARDRAIL.

1.65 DUST CONTROL

A. Description:
1. The work of this Pay Item consists of dust control by the uniform application of sprinkled water and utilization of sweepers.
2. DUST CONTROL shall be performed on an as needed basis as operations and weather dictates, and when directed by the Engineer. Frequency of DUST CONTROL operations is anticipated to be ½ of all working days per month, as defined by IDOT.
3. All equipment used for this work shall be approved by the Engineer prior to beginning work.

B. Measurement:
1. The work will be measured per each working day in which dust control operations are performed.

C. Basis of Payment:
1. The work will be paid for at the Contract Unit Price per day for DUST CONTROL.

1.66 ROCK EXCAVATION

A. Description:
1. The work of this Pay Item consists of removing and disposing of solid rock.

B. Measurement:
1. The work will be measured in the field and computed in cubic yards.

C. Basis of Payment:
1. The work of this Pay Item will be paid for at the Contract Unit Price per cubic yard of rock removed as ROCK EXCAVATION.

1.67 REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL

A. Description:
1. The work of this Pay Item consists of the removal of organic, soft, spongy or otherwise unsuitable soils found at the bottom of open trench pipe installations or at the bottom of tunnel shafts and the replacement with

gradation No. CA 1 stone complete, including removal and disposal of unsuitable materials; protection, replacement, or repair of utilities; and dewatering, including erosion and sedimentation control methods and devices to provide protection to environment from all pumping operations.

2. Payment will be allowed for only the material below an elevation one foot below the bottom of the pipe barrel, and when removal and replacement is approved by the Engineer.

B. Measurement:

1. The work will be measured in the field and computed in cubic yards.

C. Basis of Payment:

1. The work will be paid for at the Contract Unit Price per cubic yard for REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL, at the locations noted.

1.68 SOIL TESTS FOR CONTAMINANTS

A. Description:

1. The work of this Pay Item consists of providing the services of a geotechnical engineer to take samples of the soil at the site of the work and provide laboratory testing of the samples to determine if contaminants are present in the soil.
2. Soil testing should be coordinated with the City laboratory.

B. Basis of Payment:

1. The work will be paid for at the Contract Unit Price for each sample, as SOIL TESTS FOR CONTAMINANTS.

1.69 CONTAMINATED WASTE DISPOSAL

A. Description:

1. The work of this Pay Item consists of disposal of material from the work site that is determined to be contaminated, based upon criteria of Illinois Environmental Protection Act for CCDD materials.

B. Measurement:

1. The work will be measured based on verified load tickets.

C. Basis of Payment:

1. The work will be paid for at the Contract Unit Price per cubic yard as CONTAMINATED WASTE DISPOSAL.

1.70 RAILROAD CROSSING COORDINATION AND MOBILIZATION

A. Description:

1. The work of this Pay Item consists of preparatory work and operations necessary for the movement of personnel, equipment, supplies, and

incidentals to the jacked and bored casing work sites; the establishment of facilities necessary for jacked and bored casing work on the Project; bonds, work trailers, initial insurance, engineering design, layout, fencing; and all other work or operations which must be performed or costs incurred when beginning bored casing work on the Project.

2. This Pay Item includes all work required to execute all necessary permit forms and conformance with any required investigations, reports, and plans as required by Wisconsin Central LTD and its parents. See Appendices F-H.
3. Conform in all respects with the requirements of the Railroad, as set forth in the license agreement, which has been obtained by the Owner, in performing construction work in the rights-of-way required by the locations shown on the Drawings.
4. Comply with railroad regulations, provide and pay the cost of all bonds, special liability insurance, signal wire locates, flagmen, etc., as required by the railroad. See Appendix E.
5. Comply with the requirements of Appendix E for underground utility crossing under Wisconsin Central LTD. The Owner has initiated a complete subsurface investigation, including a Geotechnical Report (Appendix C). The Contractor will be responsible for the submission of a detailed monitoring plan, contingency plan, notification procedure and detailed work plan, and for monitoring and reporting during construction (Appendix E, Pages 6-7, Items 3j-k, 4-8).
6. Notify the railroad not less than five (five) days prior to starting construction in railroad rights-of-way.

B. Basis of Payment:

1. This work will be paid or at the lump sum price for RAILROAD CROSSING COORDINATION AND MOBILIZATION. The amount which a Contractor will receive payment for, according to the following schedule, will be limited to six percent of the total contract work amount for the bored casing work. Should the bid for mobilization exceed six percent, the amount over six percent will not be paid until 90 percent of the adjusted contract value is earned.
    a. Upon execution of the contract, 50 percent of the RAILROAD CROSSING COORDINATION AND MOBILIZATION pay item will be paid.
    b. When ten percent of the WATER MAIN IN BORED CASING pay item is earned, an additional 25 percent of the RAILROAD CROSSING COORDINATION AND MOBILIZATION pay item will be paid.
    c. When 90 percent of the WATER MAIN IN BORED CASING pay item is earned, the remaining 25 percent of the RAILROAD CROSSING COORDINATION AND MOBILIZATION pay item will be paid along with any amount bid in excess of six percent of the total contract work amount for the bored casing work.

END OF SECTION

SECTION 01 26 13

REQUESTS FOR INTERPRETATION

PART 1 - GENERAL

1.1 SUMMARY: REQUESTS FOR INTERPRETATION (RFI)

A. The Contractor may submit Requests For Interpretation (RFI) to the Engineer to expedite the Contractor's performance on the Project. RFIs will be submitted following the requirements, all as described in this Section.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 01 of these Specifications.
   2. Individual requirements for submittals will be described in pertinent Sections of these Specifications.

C. Work not included:
   1. Incomplete submittals will not be reviewed by the Engineer.
   2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer unless specifically called for within the Contract Documents.

D. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Make submittals of RFIs in accordance with the provisions of this Section.

F. Prior to submitting each RFI, the Contractor shall first carefully study and compare the Contract Documents, field conditions, other Owner provided information, Contractor prepared Coordination Drawings, and prior Project correspondence and documentation to determine that the information requested is not reasonably obtainable from such sources.

G. The Contractor shall submit each RFI sufficiently in advance of the date by which such information is required to allow the Engineer sufficient time, in the Engineer's professional judgement, to permit adequate review and response and to permit Contractor compliance with the latest construction schedule.

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 This Subsection intentionally left blank.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

A. Each RFI shall be submitted to the Engineer, in writing, on such form and with such accompanying information as the Engineer may require for such purpose. Each RFI shall identify the specific sources which were reviewed by the Contractor in its efforts to determine the information requested, and a statement to the effect that the information being requested could not be determined from such sources.

B. Consecutively number all submittals.
   1. When material is submitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
   2. On re-submittals, cite the original submittal number for reference.

C. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
   1. Use Request for Interpretation (RFI) Form, Section 01 26 13.13.

D. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.

E. Submittal log:
   1. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times, the date of the request, to whom the request was made, by whom the request was made, the nature of the request, and the Engineer's resolution thereof.

2. Make the submittal log available to the Engineer for the Engineer's review upon request.
3. Review this log at each Project Meeting and make the resolution of RFIs a part of the minutes of such meetings.

END OF SECTION

01 26 13.13

REQUEST FOR INTERPRETATION (RFI) FORM

RFI NO._____

Contractor requests for interpretation will be considered upon receipt of this completed RFI Form. By submission of this form the Contractor attests to the fact that having carefully reviewed the Contract Documents and coordinated the Work with the appropriate trades and reviewed field conditions, that the information requested cannot be determined from such efforts as called for in the General Conditions of the Contract.

Date:_____ Project: _____

To:_____

Description of Requested Interpretation:_____

_____

_____

Specification References:_____

Drawing References:_____

Proposed method of resolving issue. Sketches and/or Pages Attached:_____ Yes,____ No

_____

_____

Potential impact on project cost:_____

Response Date:_____ List date by which response by Engineer is requested to maintain project schedule. (Allow sufficient time for response).

Signed;_____, Project Superintendent Signature signifies acceptance of responsibility for accuracy and completeness of information.

ENGINEER'S RESPONSE

Notations listed below indicate the Engineer's action on method proposed by the Contractor to resolve issues or remarks in response to RFI when no Contractor recommendation has been provided. Changes to Contract Amount and/or project time shall be processed using standard Change Order Forms. Sketches and/or Pages Attached_____Yes____No

_____

_____

Signed:_____ Date:_____

SECTION 01 31 13.16

PROJECT COORDINATION AND CONSTRUCTION PHASING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes the Contractor's general project coordination and construction phasing requirements under this Contract.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Divisions 01, 31, 32, and 33 of these Specifications.

C. Coordinate construction activities with the Owner and Engineer.

D. Follow specific procedures and project phasing requirements specified in this Section.

E. Submit the plan of construction phasing to the Owner and Engineer for review two working days prior to the pre-construction conference.

F. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Submit a detailed plan for phasing of construction in all areas and phasing of construction and restoration that will illustrate compliance with project phase completion requirements.
   1. Provide two-week notification prior to work commencing in Work Area.
   2. Define construction activities within each Work Area on a week-by-week basis.
   3. Define subcontractor work activities within each Work Area.
   4. Allow for reasonable periods of delays caused by inclement weather.

F. Define Contractor's plans regarding storage and staging areas.
   1. Include property owner representative's name and phone number.

2. Outline requirements of agreement.
3. Define means to be utilized to meet agreements, including security measures and restoration methods.

G. Submit a detailed plan indicating the methods and materials to be used.
1. Submit plan at pre-construction meeting for approval by Owner and Engineer.
2. Revise plan, methods, and materials to comply with comments by Owner and Engineer.

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 CONTRACTOR'S REQUIREMENTS

A. Underground Utility Installation Phasing:
1. Prior to construction, contractor must coordinate with Owner and Engineer to provide detailed sequencing of construction.
2. Railroad Crossing Coordination
   a. Begin all necessary requirements for Canadian National Railway utility crossing coordination and installation.
   b. Prioritize and begin boring and receiving pit excavations for railroad crossings on Woodruff Road, Valley Avenue, and Henderson Avenue as availability allows. **Pit excavations for railroad crossings do not trigger the countdown for substantial and final completion for these Work Areas.** Casing installation must be initiated within 5 days of pit completion at each crossing.
3. Fairmont and Garvin Improvements
   a. Install water main, sanitary sewer, and water services along Woodruff Road and Edge Hill Street (Work Area D).
   b. Complete 24” connection at Fairmont and Garvin Water Tank site.
   c. This connection must be coordinated with the City at least seventy-two (72) hours in advance of the anticipated connection.
   d. A maximum allotment of four (4) hours will be allowed for the connection.
4. Install water main, sanitary sewer, and water services on Valley Avenue, Williamson Avenue, and Henderson Avenue, stopping north of the intersection with Cleveland Avenue (Work Areas B and C).
5. Install water main, sanitary sewer, and water services in the intersection of Cleveland Avenue and Henderson Avenue (Work Area A).

B. The Substantial and Final completion dates are subject to the requirements outlined in 00 41 00.41 of these specifications, Substantial Completion: 180 calendar days and Final Completion: 210 calendar days.

C. Work shall be performed by the Work Areas delineated on the attached exhibit. Work in multiple Work Areas is allowed but will not extend any Work Area's completion times.

D. All work including, but not limited to, water main, fire hydrants, valves, sewer improvements, pressure testing, chlorination, water services, and pavement restoration are to be completed in the times specified:
   1. Work Area A – Water Main and Water Service Installation: 40 calendar days; Final Pavement Restoration: 21 calendar days after last completed water service
   2. Work Area B – Water Main and Water Service Installation: 35 calendar days; Final Pavement Restoration: 21 calendar days after last completed water service
   3. Work Area C – Water Main and Water Service Installation: 45 calendar days; Final Pavement Restoration: 21 calendar days after last completed water service
   4. Work Area D – Water Main and Water Service Installation: 60 calendar days; Final Pavement Restoration: 21 calendar days after last completed water service

E. Work Area limits are defined in the attached exhibit. Any deviations to Work Areas to be submitted to Owner at Pre-Construction meeting for approval. Work Areas proposed by Contractor must meet overall Substantial and Final Completion days outlined in 00 41 00.41 of these specifications.

F. Contract Time will commence upon any intrusive work to earth or pavement within a Work Area. Intrusive work includes sawcutting, asphalt milling, excavation, and utility potholing.

G. Water service installation work must begin within 5 days of satisfactory sample results and IEPA approval. If final pavement restoration is not completed as specified in 1.7C, the contractor has the option to install temporary pavement at no additional cost to the Owner within 7 calendar days.

H. Failure to meet the requirements shall result in liquidated damages as outlined:

Description of Interim Milestone Liquidated Damages	Dollar Amount
Water Main and Water Service Completion of individual Work Area not completed within specified time	$500/day
Pavement restoration of individual Work Area not completed within specified time	$500/day
Unscheduled work occurring without required notice to residents as outlined in Section 33 11 43	$500/property for each occurrence
Traffic Control Deficiency per MUTCD requirements as specified in 01 50 00 and/or Detour plan	$1,000/day

PART 2 - PRODUCTS

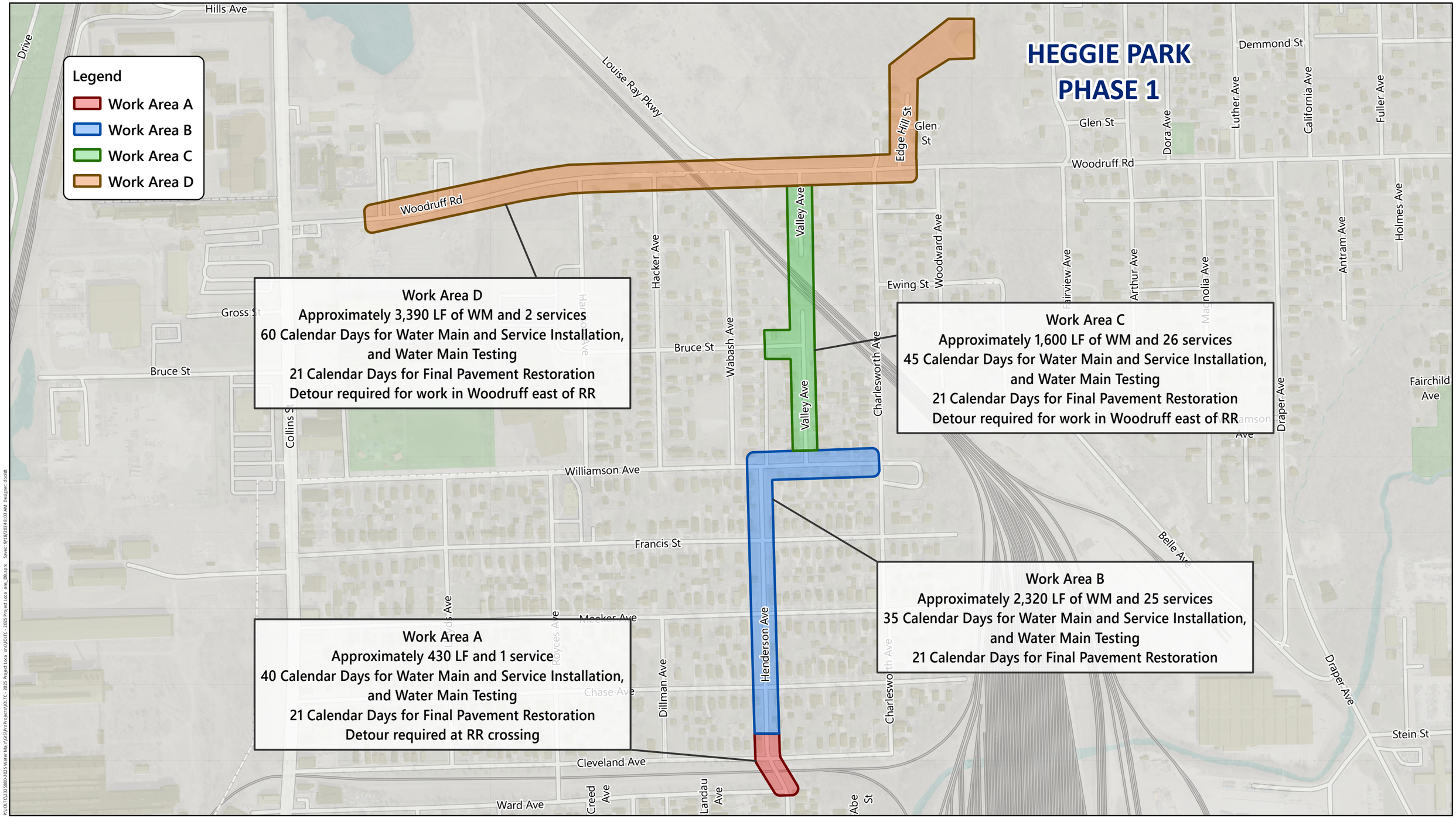
No products are required in this Section.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Construct the proposed facilities in a timely manner and comply with these project coordination and construction phasing requirements.

END OF SECTION



Source(s):

N

BAXTER & WOODMAN Consulting Engineers

0 300 600 1,200 US Feet

2025 CONSTRUCTION PHASING

Heggie Park Phase 1 Water Main Improvements

City of Joliet, Illinois

CITY OF JOLIET, ILLINOIS — CROSSROADS OF MID-AMERICA — INCORPORATED 1852

SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Work included: To enable orderly review during progress of the Work, and to provide for systematic discussion of problems, the Engineer will conduct project meetings throughout the construction period.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Agenda items: To the maximum extent practicable, advise the Engineer at least 24 hours in advance of project meetings regarding items to be added to the agenda.

F. Minutes:
   1. The Engineer will compile minutes of each project meeting, and will furnish three copies to the Contractor and required copies to the Owner.
   2. Recipients of copies may make and distribute such other copies as they wish.

1.3 QUALITY ASSURANCE

A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 No products are required in this Section.

PART 3 - EXECUTION

3.1 MEETING SCHEDULE

A. Project meetings will be scheduled at the Preconstruction Meeting.

B. Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.2 MEETING LOCATION

A. The Engineer will establish meeting location. To the maximum extent practicable, meetings will be held at the job site.

3.3 PRECONSTRUCTION MEETING

A. Preconstruction Meeting will be scheduled to be held within 20 working days after the effective date of the Agreement.
   1. Provide attendance by authorized representatives of the Contractor and major subcontractors.
   2. The Engineer will advise other interested parties, including the Owner, and request their attendance.

B. Minimum agenda: Data will be distributed and discussed on at least the following items:
   1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and Engineer.
   2. Channels and procedures for communications.
   3. Construction schedule, including sequence of critical work.
   4. Contract Documents, including distribution of required copies of original Documents and revisions.
   5. Processing of Shop Drawings and other data submitted to the Engineer for review.
   6. Processing of Bulletins, field decisions, and Change Orders.
   7. Rules and regulations governing performance of the Work; and
   8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

9. American Iron and Steel requirements, including records that Contractor must keep and items that Contractor must submit.
    a. See Section 01 62 13.

3.4 PROJECT MEETINGS

A. Progress Meetings:
1. Progress meetings will be held throughout progress of the Work at intervals agreed to by Owner, Engineer, and Contractor. Interval will generally be weekly.

B. Contractor's project manager, job superintendent, major subcontractors, and suppliers shall attend as appropriate to address agenda topics for each meeting. Contractor's representatives shall have authority to bind Contractor to decisions at the meetings.

C. The project schedule shall be updated monthly and shall be reviewed at each progress meeting. Contractor shall provide the following information in written form at each meeting.
1. Construction progress, including:
    a. Activities completed this reporting period.
    b. Activities in progress this reporting period.
    c. Activities scheduled to commence this reporting period.
2. Description of problem areas.
3. Current and anticipated delays.
    a. Cause of the delay.
    b. Corrective action and schedule adjustments to correct the delay.
    c. Impact of the delay on other activities, on milestones, and on completion dates.
4. Changes in construction sequence.

D. American Iron and Steel requirements shall be on the Agenda of each project meeting and at a minimum, the following shall be addressed:
1. Status and updates to the accepted American Iron and Steel List from the American Iron and Steel Conference or previous project meeting.
2. De Minimis List and items that need to be added to it.
3. Minor Components Waiver: Identify any items that meet the criteria for being classified as “minor” and will be furnished under this waiver.
4. Short Term National Product Waiver: Identify any items that will be furnished under this waiver.
5. Pig Iron and Direct Reduced Iron Waiver: Identify any items that will be furnished under this waiver.
6. Project Specific Waiver: Identify any items for which Contractor intends to pursue a Project Specific Waiver and the status of that pursuit.

END OF SECTION

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 SUMMARY

A. Prepare and maintain the schedules and reports described in this Section to assure adequate planning and execution of the Work so that the Work is completed within the Contract Times, and to assist the Engineer in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Requirements for progress schedule: General Conditions.
   3. Construction period: Form of Agreement.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Comply with pertinent provisions of Section 01 33 01.

F. Construction schedule: Prior to the pre-construction meeting, but no later than 30 calendar days after Contract Times commence, submit to the Engineer one reproducible copy and four prints of a construction schedule prepared in accordance with Part 3 of this Section.

G. Periodic reports: Update the construction progress monthly and submit it to the Engineer prior to submittal of each Application for Payment for completed work.
   1. Submit four prints of the construction schedule updated as described in Part 3 of this Section.

H. Weekly progress reports: Update the construction progress weekly and submit it to the Engineer via email by the end of each Friday. If Friday is a Holiday, the schedule must be submitted prior to the end of the previous work day.

1.3 QUALITY ASSURANCE

A. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Engineer.

B. Reliance upon the approved schedule:
1. The construction schedule as approved by the Engineer will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
2. Processing of the first Application for Payment will not be completed by the Engineer until the construction schedule has been submitted in accordance with 1.2 F. above.
3. Processing of the 50 percent and 80 percent progress payment applications will not be completed by the Engineer until the periodic reports have been submitted in accordance with 1.2 G. above.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 CONSTRUCTION ANALYSIS

A. Graphically show by Critical-Path (CPM), Program Evaluation and Review Technique (PERT), Precedence Methods, bar-chart, or other means acceptable to the Engineer, the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.

B. Include, but do not necessarily limit indicated activities to:
1. Project mobilization.
2. Work elements.
3. Special material and equipment installation and testing.
4. Final cleanup.
5. Final inspecting and testing.
6. All activities by the Engineer that affect progress, required dates for completion, or both, for all and each part of the work.
7. Contractor's anticipated working dates.

PART 3 - EXECUTION

3.1 CONSTRUCTION SCHEDULE

A. As soon as practicable after receipt of Notice to Proceed, complete the construction schedule in preliminary form, meet with the Engineer, review contents of the proposed construction schedule, and make all revisions agreed upon.

B. The construction schedule should include detailed dates, locations, and descriptions of construction activities.

C. Include, but do not necessarily limit indicated activities to:
1. Erosion control (by block addresses)
2. Pavement removal (by block addresses)
3. Proposed Connections (by specific location)
4. Water Main installation (by block addresses)
5. Pressure Test
6. Chlorination
7. Service line installation (by each address)
8. Landscape restoration (by block addresses)
9. PCC restoration (by block addresses)
10. Asphalt Pavement restoration (by block addresses)

D. Submit in accordance with Paragraph 1.2 F. above.

3.2 PERIODIC REPORTS

A. As required under Paragraph 1.2 G. above, update the approved construction schedule.
1. Indicate "actual" progress in percent completion for each activity;
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.3 WEEKLY PROGRESS REPORTS

A. As required under Paragraph 1.2 H. above, update the approved construction schedule.
1. Indicate " actual" progress in percent completion for each activity;
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.4 REVISIONS

A. Make only those revisions to approved construction schedule as are approved in advance by the Engineer.

END OF SECTION

SECTION 01 32 36

PRECONSTRUCTION VIDEO RECORDING

PART 1 - GENERAL

1.1 SUMMARY

A. Provide color audio-video documentation of construction areas prior to start of construction, as specified herein.
   1. Provide documentation on USB Flash drives.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 REQUIREMENTS

A. Include coverage of at least 100 feet in each direction along the street and/or pipeline when documenting areas of work that are of minimal length or are isolated locations.

B. Upon acceptance of the USB Flash drives, the USB Flash drives become the property of the Owner. The Contractor may duplicate the video for his own use at his expense.

1.8 SCHEDULING

A. Schedule video so that no area is recorded more than 6 months prior to the actual beginning of construction in that area.

PART 2 - EQUIPMENT

2.1 GENERAL

A. Furnish all equipment, accessories, and materials to perform this service, except the specific plans of the proposed area to be televised, which will be furnished by the Owner.

2.2 TECHNICAL REQUIREMENTS

A. Provide the total audio-video recording system and procedures as required to produce a finished product that will fulfill the technical requirements of the project and the more subjective requirements of high quality video and audio production. Produce the video portion of the recording with bright, sharp, clear pictures with accurate colors and free from distortion, tearing, rolls, or other forms of picture imperfection. Produce the audio portion of the recording with proper volume, clarity, and free from distortion.

B. Make recordings with a digital video recorder.

C. Provide the documentation on USB Flash drives.

PART 3 - EXECUTION

3.1 GENERAL

A. Audio-video coverage will be required in areas not accessible by conventional wheeled vehicles. Obtain such coverage by walking or special conveyance approved by the Engineer.

3.2 TIME AND POSITION RECORDS

A. Audio:
   1. Begin each recording with the current date, project name, and Owner; followed by the general location, e.g., station along the route, name of the street, viewing side, and direction of progress.

3.3 RECORDING IDENTIFICATION

A. Properly identify all USB Flash drives with number, location, and project name and municipality in a manner acceptable to the Owner.

3.4 CONSTRUCTION AREA

A. Include coverage of all surface features located within the zone of influence of construction, supported by appropriate audio description. Make audio description simultaneously with video coverage. Include coverage, but not be limited to, all existing driveways, sidewalks, curbs, ditches, roadways, landscaping, trees, culverts, headwalls, bridges, and retaining walls or buildings located within such zone of influence.

B. Identify houses and buildings visually by house or business number, when visible, in such a manner that structures of the proposed system, e.g., valve vaults, can be located by reference.

C. Record at a rate of speed not exceeding 48 feet per minute in the general direction of travel. Control panning rates and zoom-in and zoom-out rates to provide clarity of the viewed object during playback.

D. Perform all recording during times of good visibility. Perform no documentation during periods of visible precipitation, or when more than 10 percent of the ground area is covered with snow or fallen leaves, unless otherwise authorized by the Engineer.

E. The Owner has the authority to designate what areas may be omitted or added for audio-video coverage.

3.5 CONTRACTOR'S RESPONSIBILITIES

A. Use no electrical circuits within private property building structure at any time. Perform all documentation during regular business hours, unless otherwise specified by the private property owner or Engineer. Enter and leave private property in a professional and orderly, workmanship like manner.

B. Provide for an audio-visual presentation for review.
   1. The Owner has the authority to reject all or any portion of the video recording not conforming to Specifications.

2. Re-record any coverage not acceptable to the Owner at no cost to the Owner.
3. Reschedule recording of unacceptable coverage as soon as possible after being notified of non-acceptance of previous recordings.
4. Submit completed audio-visual USB Flash drives to the Owner and Engineer before commencement of construction.
   a. Provide at least two (2) copies of each USB Flash drive.

C. All acceptable recordings are the property of the Owner.

END OF SECTION

SECTION 01 32 53

DIGITAL UTILITY DATA COLLECTION

PART 1 - GENERAL

1.1 SUMMARY

A. The purpose of this specification is to provide real-time utility and infrastructure asset data for delivery into the City of Joliet's Geographic Information System (GIS). The Contractor is required to utilize GPS equipment to obtain project data points, assets, and real-time as-built utility information during construction.

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. The Contractor is required to provide their own GPS units.

1. Equipment requirements for data collection shall include GPS Rovers that meet the minimum accuracy and real-time GIS integration requirements. Equipment used to collect this data shall be properly calibrated and capable of meeting a minimum accuracy of 10 mm horizontally and 20 mm vertically (Trimble R2, DA2, or equal).
2. For multiple, simultaneous data collection operations with GPS, the Contractor may potentially need to provide multiple GPS units to collect required data.
3. The Contractor may choose to rent GPS units that meet the requirements detailed within this specification. The costs for these services are not included in this project.

The GPS provider shall be contacted for fees related to this service, if needed. GPS rentals are available from the following providers:

a. Baxter & Woodman, Inc., Attn: Matt Washkowiak 815.301.7415.
b. Seiler Geospatial, Inc., Attn: Tom Krohn 314.330.0892.

B. The GPS equipment shall integrate and utilize the Esri ArcGIS Field Maps Application (downloadable from App Store and Google Play) with an Agency provided Project Map. The Contractor will provide real-time connectivity and data updates using a cellular data connection with the GPS unit. GPS units must be able to deliver real time, cellular networked data to an ESRI ArcGIS Online portal established by the Engineer. The Contractor will have access to collected data and can utilize this GIS information to assist them throughout the project. The Contractor will use a City-provided ESRI license.

C. A 2-hour training session will be provided at the start of construction and support for up to 4-hours per month.

PART 3 - EXECUTION

3.1 STANDARDS OF DATA COLLECTION

A. The Contractor shall utilize and maintain the GPS equipment in accordance with manufacturer and local agency recommendations.

B. Contractor shall obtain survey data during or immediately after installation of the utility. For open trench and exposed water main or sewer utilities, data points shall be obtained at intervals of 50 feet and at directional changes with a minimum of 2 points. Utilities that are bored (trenchless) will be surveyed at the exposed pit locations at both ends and along the boring route with depths manually inputted every 10 feet from the above ground locating devices. For water and sanitary services, data points shall be obtained at intervals of 10 feet and at directional changes with a minimum of 2 points.

C. Data collection with the GPS device shall be completed by the contractor on a real-time basis as the project is being constructed. The contractor shall verify that data is being collected real-time with a provided GIS portal (simple website link) on a regular basis, no less than two times per day.

D. GPS control points will be provided at the project start-up, and the contractor shall check in daily (beginning of day) to verify and maintain calibration of the device.

E. At least 95% of collected data must meet GPS accuracy requirements. As a production guideline to the Contractor, GPS data collection may require occupying a point for 1-minute to gather the desired accuracy. If any point needs to be occupied in excess of 5-minutes to obtain the desired accuracy, the Contractor will note that shot in the data collection application, inform the Engineer, and move on to the next location. No point shall be occupied for more than 5-minutes.

3.2 DATA COLLECTION FEATURES

A. The following features are anticipated and designated to be collected by the contractor during construction for the purpose of delivering GIS Digital As-Builts:
   1. Water main, services, fittings, valves, hydrants, meters, corporation stops, curb stops, structures, b-boxes, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
      a. In the event that polywrap is observed to not be properly installed on ductile iron pipe, the contractor will be required to take photos of all installed ductile iron pipe to verify that polywrap is properly installed. Photos shall be provided (within Field App) as determined by the Engineer.
   2. Proposed sanitary sewer, services, manholes, cleanouts, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
   3. Proposed storm sewer, structures, and related features (horizontal, vertical elevation top of pipe, sizes, model data)
   4. Exposed Sanitary Services (horizontal, vertical elevation, sizes, regardless of type)
   5. Proposed Manhole and Structure attributes (horizontal, vertical elevation, depth, sizes, rims, inverts)
   6. Connections to existing utilities
   7. Exposed utility crossings (gas, electric, communications, pipelines, etc.)
   8. Any other proposed or modified underground utility work or related feature

B. Final GPS survey code and data input requirements will be provided at project start-up.

3.3 DATA ACCEPTANCE

A. The Contractor will be responsible for obtaining all designated features and verify collection standards are being met. If data has been found to be missing or omitted, the Engineer will notify the Contractor to obtain that data as deemed necessary, including the option to excavate, expose, and collect the missing information at no additional expense to the owner.

B. The Engineer shall verify within the Local Agency's GIS quality reviewer that all data has been collected satisfactorily prior to payment for this item. Failure to do so will be grounds for denying the pay request. If, at any time, the Contractor fails to perform this work, the Engineer reserves the right to utilize an outside provider and deduct any expense from the contract due to perform the work.

C. The Contractor shall be fully responsible for the safe and efficient gathering of data and use of equipment. No additional compensation shall be provided from any delays resulting from the operation and performance of Digital Data Collection.

3.4 SUBMITTALS

A. Digital Data Collection will be conducted real-time during construction and visible with the ArcGIS Online portal. No final GIS package delivery will be required of the contractor.

B. The Engineer will finalize data collection by completing final utility connected linework for the purpose of delivering GIS shapefiles compatible with ESRI supported GIS. Utility lines connected shall include all identified attributes. If needed, the Contractor will assist the Engineer and clarify final pipe data and connections within GIS.

C. The Contractor may utilize data in the portal to estimate quantity computation and the progress of work.

END OF SECTION

SECTION 01 33 01

SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. Provide submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements, all as described in this Section.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
2. Individual requirements for submittals will be described in pertinent Sections of these Specifications.

C. Work not included:
1. Submittals not required by the various Specification Sections of the Contract Documents will not be reviewed by the Engineer.
2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer unless specifically called for within the Contract Documents.

D. References – (Reserved).

1.2 SUBMITTALS

A. Provide submittals of Shop Drawings, Samples, Substitution Requests, progress schedules and other items required in the Contract Documents in accordance with the provisions of this Section.

1.3 QUALITY ASSURANCE

A. Coordination of submittals:
1. Review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
3. Certify that this coordination has been performed by affixing the Contractor's signature to each Contractor’s Submittal Transmittal Form Attachment 01 33 01.

B. Resubmittals and reimbursement of Engineer's costs.
   1. The Engineer will record all time used by the Engineer in the review of any third and subsequent submittals.
   2. The Owner will reimburse the Engineer at the Engineer's standard hourly rate for all time spent in such third and subsequent reviews and deduct such costs from payments due the Contractor.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

A. Provide Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
   1. Shop Drawings are not required for manholes, valve vaults, catch basins, pipe, and appurtenances needed for infrastructure systems (storm sewers, sanitary sewers, and water distribution) so long as the items are the materials and manufacturers specified in the project manual.

B. Submit Shop Drawings electronically to the Engineer as a single .pdf file set.
   1. Attach, as the first page of each Shop Drawing, a completely executed Contractor’s Submittal Transmittal Form Attachment 01 33 01.
   2. Collate the electronic .pdf file to include all data pertaining to the Shop Drawing Submittal in one .pdf set.
      a. Separate .pdf files submitted will be cause for rejection and the Shop Drawing will be returned to the Contractor.
   3. In cases where Electronic Shop Drawing files exceed a size that is practical for electronic transmission via electronic mail or through an FTP site, the Contractor may and will be required to submit up to five (5) .pdf file shop drawing submittals on separate compact discs or removable USB storage, if requested, plus the quantity of discs or removable USB storage that will be required to be returned to the Contractor.

C. Submit all required shop drawings for a specification section at the same time under one Contractor’s Submittal Transmittal Form Attachment 01 33 01.

D. Do not submit partial submittals of an item within a specification section or use a separate Contractor’s Submittal Transmittal Form for separate items within a particular section.

E. Identify exceptions or items that do not comply with the specifications and provide explanation for exception or non-compliance.

F. For Shop Drawings required to be resubmitted for review, include the following:
   1. A completely executed cover sheet Contractor's Submittal Transmittal Form Attachment 01 33 01.
   2. A cover letter responding to each of the review comments returned to the Contractor by the Engineer with the previous review and specifically stating:
      a. If the equipment and resubmitted data provided complies with the review comment(s) then provide:
         (1) How the equipment complies.
         (2) Specifically indicate where support documentation can be located in the shop drawing.
      b. If the equipment and resubmitted data provided cannot or does not comply with the review comment(s) then provide:
         (1) What is being provided to comply instead.
         (2) Justify why the Contractor feels the Engineer should consider it is acceptable to allow the Contractor to not comply with the specification.
   3. Resubmission of a complete and fully-inclusive shop drawing with all data pertinent to the item(s) being submitted.
      a. Partial submission of data that only addresses the Engineer's specific review comments, or a portion thereof, and does not include all data for a complete resubmittal, will be cause for immediate rejection.

G. Upon completion of the Engineers review of the Shop Drawings, one electronic .pdf file will be returned to the Contractor for their distribution.
   1. Upon the request of the Engineer or Owner at any time, the Contractor shall provide up to four (4) color, hard copy, shop drawing submittals.
   2. Upon the request of the Engineer or Owner at any time, the Contractor shall provide up to four (4) .pdf file shop drawing submittals on separate compact discs or removable USB storage.

2.2 MANUFACTURERS' LITERATURE

A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review by highlighting, circling, or other means, or by crossing out contents that do not pertain to the submittal and are not to be considered.
   1. This also applies to specifically indicating, when applicable, which optional items will or will not be provided with items specified.

2.3 SAMPLES

A. Provide Sample or Samples identical to the precise article proposed to be provided.
   1. Identify as described under "Identification of Submittals" below.

B. Number of Samples required:
   1. Unless otherwise specified, submit Samples in the quantity which is required to be returned, plus one which will be retained by the Engineer.
   2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Engineer.
   3. Because submittals shall be submitted to the Engineer in an electronic format as described herein, the Contractor shall specifically indicate on the Contractor's Submittal Transmittal Form Attachment 01 33 01 included with each submittal (when samples are required) when and where the physical samples will or have been transmitted for physical observation.
   4. Include as part of the electronic submittal a .pdf copy of any and all transmittals, shipping information, signatures of receipt, etc. identifying the transmission and receipt of the said sample(s).

2.4 COLORS AND PATTERNS

A. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Engineer for selection.

2.5 MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES

A. Maintain in a safe place at the site one copy of manufacturers' recommended installation procedures for all equipment and materials.
   1. Make these installation procedures readily available to the Engineer for reference.

B. When the manufacturers' recommended installation procedures are submitted as part of the shop drawings required by the Contract Documents, approval of such installation procedures by the Engineer will not be required.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

A. Consecutively number all submittals, beginning with identifying number "001" for the first submittal delivered by the Contractor.
   1. When items are submitted for any reason, transmit under a new Contractor's Submittal Transmittal Form Attachment 01 33 01 and with a new transmittal number.
   2. When material is resubmitted for any reason, cite the original identifying submittal number followed by insertion of a letter "A" for the first resubmittal, "B" for the second resubmittal, and so on.

B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
   1. Use Contractor's Submittal Transmittal Form Attachment 01 33 01.

C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.

3.2 GROUPING OF SUBMITTALS

A. Shop Drawings may be submitted for different specification sections under one Contractor’s Submittal Transmittal Form Attachment 01 33 01, provided the items are specifically and directly related to each other such that review of the items from different specification sections is pertinent for a complete review.
   1. Identify any and all items and their specific specification section(s) if included with and submitted under a differing main specification section submittal.
   2. Partial submittals may be rejected as not complying with the provisions of the Contract.
   3. The Contractor may be held liable for delays so occasioned.
   4. Do not submit unrelated items in group submittals.

3.3 TIMING OF SUBMITTALS

A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.

B. In scheduling, allow at least ten working days for review by the Engineer following the Engineer's receipt of the submittal.

END OF SECTION

ATTACHMENT 01 33 01

CONTRACTOR'S SUBMITTAL TRANSMITTAL FORM

TO: BAXTER & WOODMAN, INC.
8678 RIDGEFIELD ROAD
CRYSTAL LAKE, IL 60012

DATE: _____

ATTN: _____

PROJECT NAME: _____

_____

FROM: _____ SPEC NO. _____

_____ ENGR. DWG. NOS. _____

_____ TRANSMITTAL NO. _____

1. The following submittals are forwarded for your review:

No. of Copies	Manufacturer	Description	Drawing No.	Date

2. Have all field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data been determined and verified? Yes ___ No _____

3. Has work indicated in this submittal been coordinated with all trades? Yes ___ No _____

4. Is work by all trades being provided as necessary to accommodate this submittal? Yes ___ No _____

5. Contractor's description and justification for deviations from Contract Documents
(Use additional sheet if necessary.)

_____

_____

_____

6. Remarks: _____

_____

_____

Signature: _____

1/15 - IL

SECTION 01 41 26

PERMITS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes permit requirements for building, work in highway rights-of-way, work in railroad rights-of way and for stormwater discharges.

B. Related Sections:
   1. Documents affecting work of this Section include, but are not necessary limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Other permits requirements may also be described in other Sections of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS – (Reserved).

1.3 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner’s property certify their awareness of and familiarity with the requirements of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 CITY OF JOLIET ROAD CLOSURE PERMIT

A. For all roadway closures that last more than twenty (20) minutes that do not have a traffic detour in place, the Contractor shall obtain a Roadway Closure permit approved by the City prior to any closure by the Contractor. If a roadway is to be closed for no more than twenty (20) minutes the Contractor shall notify all emergency departments within the City prior to any lane closure. Additionally, all business or residents shall be notified prior to the closure of a road lasting longer than 20 minutes.

B. The roadway closure permit shall be submitted to the City for review a minimum of seven (7) business days prior to the anticipated closure.
   1. Any roadway closed without written approval by the City of Joliet shall result in liquated damages in the amount of $25,000 per calendar day, per occurrence, and all work being performed shall stop, be restored, and roadway reopened at the Contractors own expense.

1.8 WORK IN RAILROAD RIGHTS-OF-WAY

A. Conform in all respects with the requirements of the Railroad, as set forth in the license agreement, which has been obtained by the Owner, in performing construction work in the rights-of-way required by the locations shown on the Drawings.

B. Comply with railroad regulations, provide and pay the cost of all bonds, special liability insurance, flagmen, etc., as required by the railroad.
   1. Comply with the requirements of Appendices E-H.

C. Notify the railroad not less than ten (10) days prior to starting construction in railroad rights-of-way.

1.9 NPDES PHASE II STORMWATER PERMIT

A. ILR10:
   1. A General NPDES Permit for Stormwater Discharges from Construction Site Activity (General NPDES Permit No. ILR10) is required because the project involves 1.0-acre or more of disturbed area.
   2. The Engineer will provide the Notice of Intent (NOI) to the Contractor at the Pre-Construction Meeting.
   3. The Contractor shall complete and fill-in the construction SWPPP included in the Drawings.
   4. Update the NOI and construction SWPPP accordingly throughout the construction period.
      a. Maintain a copy of the most recent revisions to the construction SWPPP at the construction site.
      b. Perform inspections and maintain all control measures according to the permit requirements and the construction SWPPP.
      c. Maintain records of inspections and maintenance of control measures at the construction site.
      d. Submit a Notice of Termination (NOT) after construction has been completed and the construction site has been stabilized.

END OF SECTION

SECTION 01 42 13

ABBREVIATIONS AND ACRONYMS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes abbreviations referenced in the Contract Documents.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 ABBREVIATIONS

A. Referenced Standards:
   1. Where the Contract Documents reference any published specifications or standards of any organization or association, comply with the requirements of the specification or standards which are current on the date of

Advertisement for Bids. In case of a conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.

2. In case of conflict between the referenced specifications or standards and the Contract Documents, the Contract Documents shall govern.

B. Abbreviations:

1. The following are definitions of abbreviations that may be used within the Project Manual:

AA - Aluminum Association
AASHTO - American Association of State Highway and Transportation Officials
ACI - American Concrete Institute
AISC - American Institute of Steel Construction
ANSI - American National Standard Institute
ASTM - American Society for Testing and Materials
AWG - American Wire Gauge
AWS - American Welding Society
AWWA - American Water Works Association
CBM - Certified Ballast Manufacturers Association
CRSI - Concrete Reinforcing Steel Institute
HCF - Hundred Cubic Feet
ICEA - Insulated Cable Engineers Association
IEEE - Institute of Electrical and Electronics Engineers, Inc.
ISA - Instrument Society of America
FS - Federal Specifications
NAPF – National Association of Pipe Fabricators
NEC - National Electrical Code (NFPA 70)
NECA - National Electrical Contractors' Association
NEMA - National Electrical Manufacturer's Association
NFPA - National Fire Protection Association or National Forest Products Association
NSF - National Sanitation Foundation
OSHA - U.S. Department of Labor, Occupational Safety and Health Department
PS - United States Products Standards
IDOT "STANDARD SPECIFICATIONS" - Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction" including Recurring Special Provisions and Interim Special Provisions.
SSPC – Society for Protective Coatings
UL - Underwriter's Laboratories, Inc.

END OF SECTION

SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes testing to be provided by an independent testing laboratory service.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Requirements for specific tests will be described in various Sections of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

A. Provide the services of a testing laboratory approved by the Engineer.

B. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to the Engineer, to governmental agencies requiring submission of such reports, and to such other persons as directed by the Engineer.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 TESTING AGENCY DUTIES AND LIMITS OF AUTHORITY

A. Cooperate with the Engineer and the Contractor; provide qualified personnel and equipment to perform the scope of testing work outlined.

B. Acquaint the Engineer and the Contractor with testing procedures for special conditions encountered at the site.

C. Perform specified monitoring, sampling, and testing of the materials and construction.
   1. Comply with specified standards, ASTM, other authorities, and as specified.
   2. Ascertain compliance with the Contract Documents.
   3. Obtain written acknowledgment of sampling or testing.

D. Give prompt written notice to the Engineer and the Contractor of irregularities or deficiencies of work which are observed during performance of service.

E. The Laboratory is not authorized to release, revoke, alter or enlarge the Contract requirements, nor to approve or accept any portion of the work, nor to perform the duties of the Contractor.

PART 2 - PRODUCTS

2.1 PAYMENT FOR TESTING

A. Include within the Contract Price an amount sufficient to cover all testing required of the Contractor under pertinent Sections of these Specifications, and to cover all testing and inspecting required by governmental agencies having jurisdiction.

B. The Owner will pay for all testing and inspecting specifically requested by the Engineer over and above those described in Paragraph 2.1 A. above.

C. When tests indicate noncompliance with the Contract Documents, all testing and subsequent retesting occasioned by the noncompliance shall be performed by the same testing laboratory and the costs thereof shall be paid by the Contractor.

PART 3 - EXECUTION

3.1 TAKING SPECIMENS

A. Except as may be specifically otherwise approved by the Engineer, have the testing laboratory secure and handle all samples and specimens for testing.

3.2 COOPERATION WITH TESTING LABORATORY

A. Provide access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

B. Furnish casual labor and facilities:
   1. To obtain and handle samples at the site or at the source of the product to be tested.
   2. To facilitate testing operations.
   3. For laboratory's exclusive use for storage and curing of test samples on site.

C. Notify the testing agency sufficiently in advance of operations to allow for assignment of personnel and scheduling of its operations.

D. Provide the testing laboratory with copies of approved relevant shop drawings.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes construction facilities and temporary controls required for the Work.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Comply with pertinent safety requirements and regulations for temporary facilities and controls.
   3. Equipment normally furnished by the individual trades in execution of their own portions of the Work is not part of this Section.
   4. Permanent installation and hookup of the various utility lines are described in other Sections.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals:
   1. Submit shop drawings for Project Sign(s) in compliance with pertinent provisions of Section 01 33 01 including dimension drawings.

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Photos:
   1. Submit digital photo(s) of Project Sign(s) after installation showing compliance with Specifications.

1.3 QUALITY ASSURANCE

A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 REQUIREMENTS

A. Provide construction facilities and temporary controls needed for the Work including, but not necessarily limited to:
1. Temporary utilities and services such as heat, water, electricity, telephone, and internet access.
2. Sanitary facilities.
3. Enclosures such as fencing, tarpaulins, barricades, and canopies.
4. Temporary fencing of the construction site.
5. Project sign.
6. Fire extinguishers.
7. Dust and mud control.
8. Traffic control.
9. Security.
10. Right-of-way and property line control.

PART 2 - PRODUCTS

2.1 UTILITIES AND SERVICES DURING CONSTRUCTION

A. Water:
1. The Owner will provide water for the initial filling for flushing and testing of the main at no cost to the Contractor.
2. Provide necessary temporary piping and water supply and, upon completion of the work, remove such temporary facilities.
3. The Contractor must meter and record all water used for filling, flushing, and testing of the main and all other construction activities.
4. The City can provide the Contractor with a rental water meter, deposit required, to record all water taken from the City's water distribution system. Upon completion of the work, the Contractor shall return the water meter to the City with the total volume of water supplied based on the final water meter reading less the initial meter reading recorded.
a. Meter rental rate of $0.123/day applies. A deposit and $10.00 service fee are required at the time of pickup. The initial deposit will then be returned minus the daily meter rental rate and service fee.
b. The Contractor has the option to provide their own meter. The meter must be approved by the Public Utilities Superintendent prior to the start of construction. The Contractor must provide a backflow

prevention device to be utilized between the hydrant and the Contractor's equipment. The Engineer will record monthly meter readings and provide to the City.

5. The Contractor shall not connect to any portion of the City's water distribution without prior approval by the City.

B. Electricity:
   1. Provide necessary temporary wiring and, upon completion of the Work, remove such temporary facility.
   2. Provide and pay for electricity used in construction.

C. Heating: Provide and maintain heat necessary for proper conduct of operations needed in the Work.

2.2 SANITARY FACILITIES

A. Provide temporary sanitary facilities meeting federal, state, and local health department requirements.
   1. Maintain in a sanitary condition at all times.

2.3 ENCLOSURES

A. Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.

2.4 TEMPORARY FENCING

A. Provide and maintain for the duration of construction a temporary fence of design and type needed to prevent entry onto the Work by the public.

B. Jacking and receiving pit fences.
   1. As outlined in Section 33 05 23 of these Specifications.

2.5 PROJECT SIGNS

A. Prior to start of construction, provide, erect, and maintain a project sign at the job site where directed by the Engineer or as shown on the Drawings.
   1. Maintain in good condition throughout the construction period.
   2. In cases where the construction site covers a large area, a sign should be placed in an easily visible location near where the work is being performed (e.g. entrance to the neighborhood, along a main road through town, etc.).

B. Provide project sign in compliance with IEPA's signage requirements for SRF funded projects. Guidance is available here: https://epa.illinois.gov/content/dam/soi/en/web/epa/topics/grants-loans/state-revolving-fund/documents/SIGNAGE-INSTRUCTIONS.pdf. Project sign should include:
   1. Project Name "funded by Bipartisan Infrastructure Law"
   2. Investing in America emblem
   3. Illinois EPA logo
   4. USEPA logo
   5. Owner's logo

C. To increase public awareness of projects serving communities where English is not the predominant language, translate the language on signs (excluding the EPA logo or seal) into the appropriate non-English language(s).

D. Except as otherwise specifically approved by the Engineer for identification of subcontractors and directions for delivery of materials, do not permit other signs or advertising on the job site.

E. Remove and dispose of all signs at the completion of the project.

2.6 FIRE EXTINGUISHERS

A. Provide and maintain not less than two fire extinguishers, multi-purpose dry chemical type with UL rating of 4A-60 B:C, 10-pound capacity, Amerex Model ABC, or equal, enclosed in suitable protecting cabinets and conveniently located for proper protection.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL

A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.

B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Engineer.

3.2 DUST AND MUD CONTROL

A. Take necessary precautions to control dust and mud associated with the Work, subject to the approval of the Engineer.
   1. In dry weather, spray dusty areas daily with water in order to control dust.
   2. Apply calcium chloride having a minimum chemical content of 77 percent calcium chloride at an application rate of 3 pounds per square yard of surface covered at locations as directed by the Engineer.

B. Take necessary steps to prevent the tracking of mud onto adjacent streets and highways.
   1. Wash mud resulting from the construction traffic off the adjacent streets and highways.
   2. Clean all permanent roadways used for construction activities by using motorized street sweeper that utilizes vacuum and water to pick up debris, when directed by Engineer.

3.3 TRAFFIC CONTROL

A. Protect and maintain traffic by the proper use of barricades, warning lights, flares, and necessary traffic control and safety devices, conforming to federal, state, and local regulations regarding their use.

B. Use forms of traffic control on public roadways required by the construction operations in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways", Articles 107.09 and 107.14 of the IDOT "Standard Specifications", and the "Highway Standards".

C. Unless the Contractor has obtained written permission from the Engineer to temporarily close any street, alley, or other traveled way, keep such traveled way open to traffic on the existing pavement.

D. Maintain alternating one-way traffic from opposing directions during working hours. At all other times, provide sufficient width within existing shoulders or curbs to permit one lane of traffic in each direction.

E. Ensure that all barricades, warning signs, lights, and other devices are operational 24 hours each day, including Sundays and holidays, during the time the contract is in force.
   1. In the event of severe weather conditions, provide any additional personnel necessary to properly maintain all traffic control devices.

F. At the preconstruction meeting, furnish the name of the individual in the Contractor's direct employ who is to be responsible for the installation and maintenance of the traffic control for this project.
   1. If the actual installation and maintenance are to be accomplished by a Subcontractor, obtain the Engineer's consent at the time of the preconstruction meeting.
   2. The Owner will provide the Contractor with the name of its representative who will be responsible for the administration of the traffic control plan.

G. Provide access to private driveways at all times except during pipeline installation across a driveway.
   1. Keep driveway closure times to an absolute minimum.
   2. Warn homeowners 24 hours in advance of a driveway closure, and again just prior to closing to allow homeowners to move their vehicles.
   3. Maintain access for emergency vehicles at all times.

H. Provide access to commercial or industrial driveways at all times except during pipeline installation across a driveway.
   1. Keep driveway closure times to an absolute minimum.
   2. If two driveway entrances exist, keep one driveway open at all times.
   3. Establish schedule for driveway closures with commercial or industrial establishments that will not obstruct passage of employees or customers during heavy use period.
   4. Maintain access for emergency vehicles at all times.

3.4 SECURITY

A. Take whatever measures are necessary to protect the safety of the public, workmen, and materials.
   1. Provide inspection of work area daily.
   2. Provide the security of the site, both day and night.

3.5 RIGHT-OF-WAY AND PROPERTY LINE CONTROL

A. Protect all right-of-way markers, property line iron pins, and easement iron pins during construction.
   1. Flag such control points prior to construction, and protect the points during the course of construction.

B. Establish tie-down control for any right-of-way markers or iron pins that may be lost or damaged during the work.

C. Re-establish any right-of-way markers or iron pins that are lost or damaged during construction, after completion of restoration work.

D. Provide the services of a Registered Land Surveyor for replacement of lost markers and pins.
   1. The cost for this work will be considered incidental to the Contract, and no additional compensation will be allowed.

3.6 WORK BOUNDARY FENCE

A. Provide fence along edges of all easement limits, shaft work zones, and access roads to delineate limit of Contractor's Work area, where indicated on the Drawings.

B. Maintain fences until removal is approved by Engineer.
   1. Provide 6-foot tall chain link fence in place of standard work boundary fence where indicated on the Drawings.

END OF SECTION

SECTION 01 62 13

AMERICAN IRON AND STEEL DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Comply with the American Iron and Steel provisions of the Consolidated Appropriations Act of 2014.

B. Provide documentation verifying compliance with the requirements of the American Iron and Steel provisions of the Consolidated Appropriations Act of 2014, including, but not limited to, requirements described in this Section.

C. Related work:
   1. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. References – (Reserved).

1.2 SUBMITTALS

A. Provide Attachment 01 62 13-01 Step Certification of American Iron and Steel Compliance for each product and/or material from each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products subject to American Iron and Steel requirements certifying that their step in the process was domestically performed.
   1. Multiple certifications are required for products and/or materials which have more than one entity involved from iron and/or steel production through final product and/or material completion ready for delivery.

B. Provide a list of project specific items subject to American Iron and Steel requirements.
   1. Submit list prior to submission of the first Application for Payment, but no later than 7 calendar days after the date of the Pre-Construction Meeting.
   2. Include in the list:
      a. Item identification.
      b. Related specification section.
      c. Paragraph number.
      d. Installation location.
      e. Identification of which waivers will apply, if any:
         (1) De Minimis Waiver.
         (2) Minor Components Waiver.
         (3) Short Term National Product Waiver.
         (4) Pig Iron and Direct Reduced Iron Waiver.
         (5) Project Specific Waiver.
   3. Provide updates to list at each application for payment.

C. Preliminary Documentation submittal:
   1. For items requiring shop drawings:
      a. Provide a draft example Attachment 01 62 13-01 submittal at time of shop drawing submittal.
         (1) Include a separate declaration on company letterhead from each entity in the chain of custody declaring ability and intent to meet the requirements of the American Iron and Steel provisions.
   2. For items not requiring shop drawings:
      a. Provide a draft example Attachment 01 62 13-01 submittal no later than sixty days prior to shipment.
         (1) Include a separate declaration on company letterhead from each entity in the chain of custody declaring ability and intent to meet the requirements of the American Iron and Steel provisions.

D. Final Documentation Submittal:
   1. Provide submittal of final Attachment 01 62 13-01 compliance documentation no later than 7 calendar days prior to shipment.

E. De Minimis Final Utilization and Certification Form:
   1. Update Attachment 01 62 13-02 monthly.
   2. Submit updated Attachment 01 62 13-02 with each pay request.
   3. Submit final Attachment 01 62 13-02 at substantial completion for the record of the Owner.

F. Comply with pertinent provisions of Section 01 33 01.

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS – (Reserved).

PART 3 - EXECUTION

3.1 AMERICAN IRON AND STEEL CONFERENCE

A. Schedule conference with Owner and Engineer.

B. The purpose of the conference is to review:
   1. The Contractor's list of items subject to American Iron and Steel requirements.
   2. The procedure for preparation, preliminary submittal, and final submittal of Step Certifications for:
      a. Items requiring shop drawings.
      b. Items not requiring shop drawings.
   3. Examples of step certifications.
   4. Engineer's procedure for review of Step Certifications.
   5. The dates the Contractor intends to submit Preliminary Documentation and Final Documentation, especially for those items that do not require shop drawings and are needed early in the construction process.
   6. The De Minimis Final Utilization and Certification Form (Attachment 01 62 13-02) and how Contractor is to use it to track De Minimis items.
   7. Project Specific Waivers, if any, that the Contractor intends to pursue.

C. Complete American Iron and Steel Conference on or before the 75th day of the Contract Time.

D. The accepted list will be used to track American Iron and Steel certification submittals by the Contractor.

END OF SECTION

ATTACHMENT 01 62 13-01
STEP CERTIFICATION OF AMERICAN IRON AND STEEL COMPLIANCE

[The following information is provided as a sample letter of **step** certification for American iron and Steel compliance. Documentation must be provided on company letterhead. **Provide a separate certification from each entity in the chain of production of the product and/or material from source iron and/or steel production through completed product and/or material.]**

Date

Company Name

Company

Address City,

State Zip

Subject: American Iron and Steel Step Certification
Heggie Park Phase 1 Water Main Improvements
City of Joliet, Illinois

I, (*company representative*), certify that the (*list processes here: melting, bending, forming, rolling, drawing, finishing, coating, galvanizing, cutting, etc.*) processes for (*manufacturing or fabricating*) the following products and/or materials shipped or provided for the subject project are in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

Item, Products and/or Materials:

1. Xxxx
2. Xxxx
3. Xxxx

Such processes took place at the following location(s):

_____

If any of the above compliance statements change while providing material to this project we will immediately notify the prime Contractor and the Engineer.

Signed by company representative

ATTACHMENT 01 62 13-02

DE MINIMIS FINAL UTILIZATION AND CERTIFICATION FORM

Public Law 114-113, the “Consolidated Appropriations Act 2016" and subsequent “Continuing Resolutions” passed by Congress require the use of American Iron & Steel in SRF-funded projects. Under the authority of the Consolidated Appropriations Act 2016, the EPA has issued a public interest waiver for De Minimis incidental components. The assistance recipient wishing to use this waiver should consult with their contractor(s) to maintain an itemized list of components covered under De Minimis. At the conclusion of the project, this form should be completed and retained by the loan applicant. A copy must be provided to the Agency if requested. **It is strongly recommended that you maintain a list as the project progresses**. Please print clearly or type.

Loan Recipient: _____

Project Name: _____ Loan No. _____

NOTE: The De Minimis waiver is only applicable to the cost of materials for the entire project. Do not include other project costs (labor, installation costs, etc.) in the "Total Cost of Materials". The cost of a material must include delivery to the site and any applicable tax. Must have sufficient documentation to support all costs included in this calculation.

Funds used for de minimis incidental components cumulatively may comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into a project; the cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into a project.

Total Cost of Materials:		5% Limit:		1% limit:	

Manufacturer & Component Description	Part/Model #	Quantity (if applicable)	Cost per Unit (if applicable)	Component's Total Cost	How is Cost Documented?*

Manufacturer & Component Description	Part/Model #	Quantity (if applicable)	Cost per Unit (if applicable)	Component's Total Cost	How is Cost Documented?*

Use additional sheets as necessary

Total De Minimis Cost of Components:

* Documentation must demonstrate confirmation of the components' actual costs (invoice, etc.).

Completed by:

Name: _____ Title: _____

Signature: _____ Date: _____

ATTACHMENT 01 62 13-03
LIST OF IRON AND STEEL PRODUCTS

The following is a list of commonly used iron and steel products covered by the American Iron and Steel requirement is attached. Refer to Section 436 (a) – (f) of the Consolidated Appropriations Act, 2014 and https://www2.illinois.gov/epa/Documents/iepa/grants-loans/state-revolving-fund/ais-guidance.pdf for additional guidance.

Iron and Steel Products:

- Lined or unlined pipes or fittings;
- Manhole Covers;
- Municipal Castings (defined in more detail below);
- Hydrants;
- Tanks;
- Flanges;
- Pipe clamps and restraints;
- Valves;
- Structural steel (defined in more detail below);
- Reinforced precast concrete; and
- Construction materials (defined in more detail below)

Municipal Castings

- Access Hatches
- Ballast Screen
- Benches (Iron or Steel)
- Bollards
- Cast Bases
- Cast Iron Hinged Hatches, Square and Rectangular
- Cast Iron Riser Rings
- Catch Basin Inlet
- Cleanout/Monument Boxes
- Construction Covers and Frames
- Curb and Corner Guards
- Curb Openings
- Detectable Warning Plates
- Downspout Shoes (Boot, Inlet)
- Drainage Grates, Frames and Curb Inlets
- Inlets
- Junction Boxes
- Lampposts
- Manhole Covers, Rings and Frames, Risers
- Meter Boxes
- Service Boxes
- Steel Hinged Hatches, Square and Rectangular
- Steel Riser Rings
- Trash receptacles
- Tree Grates
- Tree Guards
- Trench Grates
- Valve Boxes, Covers and Risers

Structural steel:
Structural steel is rolled flanged shapes, having at least one dimension of their cross-section three inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

Construction materials:
Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), welding rods, decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, and stationary screens.

SECTION 01 66 11

STORAGE AND PROTECTION OF MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Additional procedures also may be prescribed in other Sections of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with the requirements of this Section for off-site storage.
   1. The Engineer reserves the right to visit and observe the off-site storage areas.

B. Store equipment and materials in accordance with the manufacturer's instructions.

C. Provide temporary weathertight enclosures to protect products from damage by the elements.

D. Protect finished surfaces through which equipment and materials are handled.

E. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

F. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

G. Do not store plant maintenance equipment, furniture, and laboratory equipment on site until they are needed by the Owner or for progress of work.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 MANUFACTURERS' RECOMMENDATIONS

A. Except as otherwise approved by the Engineer, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.8 PACKAGING

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
   1. Maintain packaged materials with seals unbroken and labels intact until time of use.
   2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.

B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality, and other pertinent information.

1.9 REPAIRS AND REPLACEMENTS

A. In event of damage, promptly make replacements and repairs to the approval of the Engineer and at no additional cost to the Owner.

B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01 74 26

PIPELINE CONSTRUCTION SITE CLEANING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes requirements for maintaining cleanliness on underground pipeline construction projects.
   1. Throughout the construction period, maintain the site at a standard of cleanliness as described in this Section.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. In addition to standards described in this Section, comply with requirements for cleaning as described in other pertinent Sections of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

A. Conduct daily inspections, and more often if necessary, to verify that requirements for cleanliness are being met.

B. In addition to the standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

A. Provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, and also capable of providing the cleanliness required.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. General:
1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the environment.
5. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
6. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of Paragraph 3.1 A. 1. above.
7. Maintain the site in a neat and orderly condition at all times.

B. Daily Cleaning:
1. Take necessary steps to prevent tracking of mud onto adjacent streets, highways, driveways, sidewalks, and other paved areas.
   a. Wash mud resulting from construction traffic off of adjacent pavements.
   b. Provide a vacuum/washer/sweeper combination machine to clean pavements on a regular basis, and when requested by the Engineer.

3.2 FINAL CLEANING

A. "Clean", for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality maintenance equipment and materials.

B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Paragraph 3.1 above.

C. Unless otherwise specifically directed by the Engineer, broom and wash clean paved areas on the site and public paved areas adjacent to the site.
   1. Completely remove resultant debris.
   2. Provide vacuum/washer/sweeper combination machine if requested by the Engineer.

D. Schedule final cleaning as approved by the Engineer to enable the Owner to accept a completely clean Work.

END OF SECTION

SECTION 01 77 01

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes an orderly and efficient transfer of the completed Work to the Owner.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Activities relative to Substantial Completion and Contract closeout are described in the General Conditions.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE

A. Prior to requesting that the Engineer issue a certificate of Substantial Completion in accordance with Paragraph 14.04 or 14.05 of the General Conditions, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for a joint inspection by Owner, Contractor, and Engineer.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 PROCEDURES

A. Substantial Completion:

1. Prepare and submit the list required by the first sentence of Paragraph 14.04.A of the General Conditions and submit it along with a written request that Engineer issue a certificate of Substantial Completion.
2. Within a reasonable time after receipt of the list, Owner, Contractor and Engineer will jointly inspect the Work to determine status of completion.
3. Should the Engineer determine that the Work is not substantially complete:
   a. The Engineer will so notify the Contractor, in writing, giving the reasons therefore.
   b. Remedy the deficiencies and notify the Engineer when ready for reinspection.
   c. Owner, Contractor and Engineer will reinspect the Work.
4. When the Engineer concurs that the Work is substantially complete:
   a. The Engineer will prepare a tentative "Certificate of Substantial Completion," accompanied by the Contractor's list of items to be completed or corrected, as verified by the Engineer.
   b. The Engineer will submit the tentative Certificate to the Contractor for acceptance.
   c. After Contractor signs and returns the tentative Certificate to Engineer, Engineer will submit the tentative Certificate to Owner accompanied by a tentative list of items to be completed or corrected before final payment.
   d. Owner will have seven days after receipt of the tentative Certificate during which to make objection to Engineer as to any provisions of the Certificate on attached list.
      (1) If Owner objects, Engineer will consider Owner’s objections. If, after considering Owner’s objections, Engineer concludes that the Work is not substantially complete, Engineer will, within fourteen days after submission of the tentative Certificate to Owner, notify Contractor in writing, stating reasons therefore. If, after considering Owner’s objections, Engineer considers the Work substantially complete, Engineer will within said fourteen days execute and deliver to Owner and Contractor, a definitive Certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative Certificate as Engineer believes justified after consideration of any objections of Owner.
      (2) If Owner has no objections, Engineer will within fourteen days after submission of the tentative Certificate to Owner and Contractor issue a definitive Certificate of Substantial Completion.
   e. At the time of delivery of the tentative Certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security,

operation, safety, maintenance, heat, utilities, insurance, warranties, and guarantees. Unless Owner or Contractor advise the Engineer in writing of any objections within seven days after delivery of the tentative Certificate of Substantial Completion, the Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

B. Final Completion:
   1. Prepare and submit the notice required by the first sentence of Paragraph 14.06A of the General Conditions.
   2. Verify that the Work is complete including, but not necessarily limited to, the items mentioned in Paragraph 14.07.A of the General Conditions.
   3. Certify that:
      a. Contract Documents have been reviewed.
      b. Work has been inspected for compliance with the Contract Documents.
      c. Work has been completed in accordance with the Contract Documents.
      d. Equipment and systems have been tested as required, and are operational.
      e. Work is completed and ready for final inspection.
   4. Owner, Contractor, and Engineer will make a joint inspection to verify status of completion.
   5. Should the Engineer determine that the Work is incomplete or defective:
      a. The Engineer will so notify the Contractor, in writing, listing the incomplete or defective work.
      b. The Contractor will remedy the deficiencies promptly, and notify the Engineer when ready for reinspection.
   6. When the Engineer determines that the Work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals.

C. Closeout submittals include, but are not necessarily limited to:
   1. Project Record Documents described in Section 01 78 39.
   2. Warranties and bonds.
   3. Section 00 65 36 Warranty Form.
   4. Section 00 65 36.03 Contractor's Affidavit Letter.
   5. Keys and keying schedule.
   6. Spare parts and materials extra stock.
   7. Evidence of compliance with requirements of governmental agencies having jurisdiction including but not necessarily limited to:
      a. Certificates of Inspection.
      b. Certificates of Occupancy.
   8. Certificates of Insurance for products and completed operations.
   9. Evidence of payment and release of liens.

10. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.

D. Final adjustment of accounts:
   1. Submit a final statement of accounting to the Engineer, showing all adjustments to the Contract Price.
   2. If so required, the Engineer will prepare a final Change Order showing adjustments to the Contract Price which have not been made by previous Change Orders.

END OF SECTION

SECTION 01 77 15

SEWER TELEVISING FOR FINAL INSPECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Provide preparatory cleaning of the entire sewer section before conducting the internal sewer inspection, as specified herein.

B. Provide internal sewer inspection of the entire sewer section (manhole to manhole) by the use of a closed circuit television, as specified herein.

C. Provide a type written transcription of the internal inspection coded by a technician certified for NASSCO's Pipeline Assessment Certification Program (PACP).

D. Related Work:
   1. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01, General Requirements, of these Specifications.

E. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Comply with the pertinent provisions of Section 01 33 01.

F. Video Inspection:
   1. Prior to final payment for this Contract, submit two copies of the sewer televising videos on USB Flash drives, written logs, and Microsoft Access V07 database to the Engineer.
   2. Video inspection and database shall be fully compatible with PACP V 7.0.2 format with all header information filled out.

1.3 QUALITY ASSURANCE

A. Utilize cleaning, televising and recording equipment meeting the requirements of Part 2 of this Section.

B. Provide preparatory cleaning and prepare USB Flash drives, and written logs in accordance with Part 3 of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - EQUIPMENT

2.1 PREPARATORY CLEANING EQUIPMENT

A. General:
1. Provide equipment constructed for ease and safety of operation.

B. High-Velocity Jet (Hydrocleaning) Equipment:
1. Provide equipment with a selection of 2 or more nozzles capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned.
2. Accessories:
a. Provide a sand nozzle if the condition of the sewer necessitates.

2.2 INTERNAL SEWER INSPECTION EQUIPMENT

A. General:
1. Provide a closed circuit television (CCTV) and audio-video recording system for internal inspection of mainline sewer capable of producing picture quality to the satisfaction of the Owner's representative.

B. Television camera:
1. Use a digital color television camera designed and constructed for sewer inspection with the following capabilities:
a. High resolution color-chip camera and monitor capable of producing a minimum of 650 lines of resolution.
b. Adequate and adjustable directional lighting to allow a clear picture of the entire periphery of the pipe.
c. Provide auxiliary lighting for sewers larger than 12-inch diameter.
d. Operable in 100 percent humidity conditions.
e. Use a camera that has a 360 degree radial by 270 degree pan-and-tilt viewing field.
f. Remote or manually propelled.
g. Electric footage counters accurate to less than 1 percent error over the length of the particular sewer being inspected.
h. Skids or floatation device where it is necessary to raise the camera in large sewers specifically sized for each pipe diameter to position the camera in the center of the pipe.

C. Audio-Video recording system:
   1. General:
      a. Provide the total audio-video recording system and procedures as required to produce a high quality digital video and audio production of bright, sharp, clear pictures with accurate colors, free from distortion. The audio portion shall have proper volume and clarity and shall be free from distortion.
   2. Video Record Equipment:
      a. Record inspection electronically and create USB Flash drives directly from digital content without an intermediate analog conversion.
      b. Provide the documentation of the inspection in digital format (.mpg, .avi, or other approved format) and submitted on one USB Flash drive or (2.0/3.0) powered portable hard drive.

PART 3 - EXECUTION

3.1 PREPARATORY CLEANING

A. Provide preparatory cleaning of the sewer section to permit unobstructed passage of the television camera and clean enough for the camera to discern structural defects, misalignment, service lateral connections, and points of infiltration.

B. Perform a light cleaning with High-Velocity Jet or power rodding equipment to flush the entire sewer section, if necessary and as directed by the Engineer, to allow televising. 95% or more of the sanitary pipe must be visible for televising.

C. Perform heavy cleaning, as directed by the Engineer when light cleaning is not effective.

D. See Section 01 50 00 of these Specifications for methods and regulations regarding obtaining water for cleaning of sewer.

E. Remove debris resulting from the cleaning operation from the downstream manhole of the sewer section. Passing of debris through subsequent sections is not permitted.

F. Dispose of debris from the cleaning operation at the wastewater treatment plant or approved landfill.

3.2 INTERNAL SEWER INSPECTION

A. The high-velocity jetting machine will not be allowed to operate directly in front of the camera during the inspection.

B. Begin each digital video with the current date, project name, and Owner; followed by the general locations, manhole segment and direction of viewing superimposed on the video monitor.

C. Professionally label all USB Flash drives showing the Owner's name, the sewer lines recorded on the tape, the date and Contractor's name.

D. Move the camera, at a speed no greater than 30 feet per minute and stopping when necessary to permit proper documentation of the sewer's condition.

E. Inspect the entire length of the sewer section.

F. Stop at all service connections, and pan and look up service.

G. Documentation:
   1. Inspection Logs:
      a. Provide inspection logs with the following information:
      b. Owner's Name.
      c. Inspector's Name.
      d. Crew Chief's Name.
      e. Date.
      f. From MH No.____ located at _____.
      g. To MH No.____ located at _____.
      h. Direction of Flow.
      i. Type of Pipe.
      j. Type of Joints, if apparent.
      k. Joint Spacing.
      l. Cleanliness.
      m. Manhole Conditions.
      n. Section Length.
      o. Pipe Size.
      p. Depth of Pipe.
      q. Direction of Inspection (camera movement).
      r. Surface conditions.
      s. Document the footage and clock orientation of all pipe defects, change in pipe material, building service connections and any other abnormal conditions.
      t. Use terminology generally accepted by the industry.
      u. Provide legible entries on inspection logs.
      v. Complete inspection log in the field.
   2. Provide an audio track recorded by the inspection technician during the actual inspection describing all information documented in the Inspection Log.
   3. Video inspection and database shall be fully compatible with PACP V 7.0.2 format with all header information filled out. Each inspection shall be labled USMH-DSMH.

3.3 FINAL ACCEPTANCE

A. Provide digital video to Engineer for review as outlined in paragraph 1.2 of this Section.

B. Retelevise sewers found to be deficient during initial television inspection, after repairs are completed, for as many times as required to obtain final acceptance.

C. Retelevise any sewer section where final inspection videos are of insufficient quality as determined by Engineer, Owner or District.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in Paragraph 3.1 below and, upon completion of the Work, submit the recorded changes as described in Paragraph 3.2 below.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.
   2. Other requirements affecting Project Record Documents may appear in pertinent other Sections of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Comply with pertinent provisions of Section 01 33 01.

F. The Engineer's approval of the current status of Project Record Documents may be a prerequisite to the Engineer's approval of requests for progress payment and request for final payment under the Contract.

G. Prior to submitting each request for progress payment, secure the Engineer's approval of the current status of the Project Record Documents.

H. Prior to submitting request for final payment, submit the final Project Record Documents to the Engineer and secure his approval.

1.3 QUALITY ASSURANCE

A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Engineer.

B. Accuracy of records:
   1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
   2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.

C. Make entries within 24 hours after receipt of information that the change has occurred.

D. Do not conceal any work until the required information is recorded.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.

B. In the event of loss of recorded data, use means necessary to again secure the data to the Engineer's approval.
   1. Such means shall include, if necessary in the opinion of the Engineer, removal and replacement of concealing materials.
   2. In such case, provide replacements to the standards originally required by the Contract Documents.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS

A. Job set: Promptly following receipt of the Owner's Notice to Proceed, secure from the Engineer at no charge to the Contractor one complete set of all Documents comprising the Contract.

PART 3 - EXECUTION

3.1 MAINTENANCE OF JOB SET

A. Immediately upon receipt of the job set described in Paragraph 2.1 A. above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET".

B. Preservation:
1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set.
2. Do not use the job set for any purpose except entry of new data and for review by the Engineer.
3. Maintain the job set at the site of Work where designated by the Engineer.

C. Making entries on Drawings:
1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
2. Date all entries.
3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
4. In the event of overlapping changes, use different colors for the overlapping changes.

D. Make entries in the pertinent other Documents as approved by the Engineer.

E. Conversion of schematic layouts:
1. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, is shown schematically and is not intended to portray precise physical layout.
   a. Final physical arrangement is determined by the Contractor, subject to the Engineer's approval.
   b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.
2. Show on the job set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as are described in Paragraph 3.1 E. 1. above.

3.2 REVIEW AND SUBMITTAL

A. Submit the completed set of Project Record Documents to the Engineer as described in Paragraph 1.2 H. above.

B. Participate in review meetings as required.

C. Make required changes and promptly deliver the final Project Record Documents to the Engineer.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

A. The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

END OF SECTION

SECTION 31 23 79

TRENCHING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 SUMMARY

A. Trench, backfill, and compact as specified herein and as needed for installation of underground pipelines and utilities associated with the Work.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 GRANULAR PIPE BEDDING AND COVERING MATERIALS

A. Provide well graded, washed, mixture or gravel or crushed stone aggregate free of clay, loam, dirt, calcareous or other foreign matter conforming to the IDOT “Standard Specifications” gradation No. CA 7 or No. CA 11, or the Standard

Specifications for Water and Sewer Construction in Illinois, with the following gradation:

Sieve Size	Percent Passing
1½-inch	100%
1-inch	90 -100%
1/2-inch	30 - 60%
No. 4	0 -10%

1. For flexible thermoplastic pipes including sewer pipes, sewage force mains, and water mains: Comply with ASTM D2321, Class I or II as modified below.
   a. Exclude sharp angular materials.
   b. Do not use natural rounded or smooth stone or gravel (such as pea gravel or similarly rounded materials).
   c. Limit maximum particle size to ½-inch (IDOT CA 15 or CA 16).
   d. Do not use Class II materials in wet conditions.
2. For rigid pipes, comply with ASTM C12, Bedding Class B.

2.2 GRANULAR BACKFILL

A. Provide either granular material.
   1. Granular material: Use 100 percent crushed stone or gravel complying with the IDOT "Standard Specifications" gradation No. CA 6.

2.3 TEMPORARY AGGREGATE PAVEMENT MATERIAL

A. Provide well graded, 100 percent crushed gravel or crushed stone aggregate free of clay, loam, dirt, calcareous or other foreign matter conforming to the IDOT "Standard Specifications" gradation No. CA 6.

2.4 GEOTEXTILE FABRIC

A. Provide geotextile fabric for separation of granular material and native soil in areas where trench is over-excavated to remove unsuitable materials.
   1. Acceptable manufacturers:
      a. Mirafi: 160N.
      b. Synthetic Industries: 601.
      c. Or equal.

2.5 GROUT FOR FILLING OF ABANDONED PIPES

A. Cellular grout:
   1. Low density cellular concrete capable of being mixed on site and pumped into place through a 2-inch hose.
   2. Foaming agent complying with ASTM C869.
   3. Portland Cement: ASTM C150, Type I or Type II.
   4. Contents: cement, fly ash, water and foaming agent.

5. Minimum net density: 80 pcf.
6. Acceptable manufacturers:
    a. Mearl Geofoam Liquid Concentrate.
    b. Geofill-Lite by “MixOnSite”.
    c. Or equal.

2.6 WATER MAIN REPAIR

A. Repair water main or water services damaged during construction utilizing products of type and manufacturers as approved by the Owner.

B. Pipe couplings for joining of sections of cut water main where a section of new pipe is used to replace a broken pipe.
1. Acceptable manufacturers:
    a. Dresser Style 38.
    b. Smith-Blair CC-441.
    c. Or equal.

C. Repair clamps for broken or cracked pipe and sealing of existing corporation stop opening.
1. Use full-circle single band all stainless steel clamps.
2. Acceptable manufacturers:
    a. Dresser Style 360.
    b. Smith-Blair 200 Series.
    c. Or equal.
3. Replace damaged service corporation stops by installation of full-circle single band all stainless steel clamps, with service outlet, matching manufacturer’s and styles used for repair of a cracked pipe.

2.7 DRAIN TILE REPLACEMENT

A. Replacement pipe: New pipe of the same size. Use new PVC SDR-26 pipe per ASTM D3034.

B. Utilize flexible couplings with stainless steel bands for connecting new pipe to old pipe.

C. Provide CA-6, CA-7, CA-11 aggregate for backfill material.

2.8 PIPE TRACER WIRE

A. See Section 33 11 43 for PVC water main tracer wire options in open cut applications.

2.9 PIPE MARKING TAPE

A. See Section 33 11 43 for PVC water main pipe marking tape options in open cut applications.

2.10 CASING PIPES – OPEN CUT INSTALLATION

A. General:
   1. Provide casing pipes for protection of water or sewer piping where indicated on the Drawings.

B. Materials:
   1. 160 psi – SDR 26 PVC pressure pipe complying with ASTM D-2241; or
   2. AWWA C-900 or C-905 PVC water main pipe; or
   3. ASTM A139, Grade A – 35,000 psi steel pipe.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 GENERAL CONSTRUCTION REQUIREMENTS

A. Protection of existing facilities:
   1. Unless shown to be removed, protect existing structures, conduits, active utility lines and all other facilities shown on the Drawings or otherwise made known to the Contractor. If damaged, repair, replace, or restore to a condition equal to or better than the original condition at no additional cost to the Owner.
   2. Notify all persons, firms, corporations, or agencies owning or using any existing structures, conduits, or utilities which may be affected by the Work prior to the start of construction.
   3. Make arrangements to locate, maintain, protect, and/or relocate facilities in order to complete the Work.
   4. Make such exploration as is necessary to determine the exact location of underground utilities.
   5. Exercise care during the progress of work in the area to prevent damage to the utilities.
   6. Whenever it becomes necessary to relocate underground gas mains, telephone conduit, or electrical lines or support or relocate utility poles, the utility company involved will make such relocation or provide pole support. Notify the utility company promptly.
   7. Whenever it becomes necessary to relocate water or other pipes or conduits in direct conflict with the proposed pipe (exclusive of culverts) which are not shown on the Drawings, obtain the direction from the Engineer for the relocation. Compensation will be allowed only for such quantities as directed by the Engineer.
   8. Do not block or obstruct sidewalks, streets, and pavements.

9. Whenever during construction operations any loose material is deposited in the flow line of gutters, drainage structures, or ditches such that the natural flow line of water is obstructed, remove this loose material at the close of each working day. At the conclusion of construction operations, keep all drainage structures and flow lines free from dirt and debris.
10. Do not obstruct accessibility of fire hydrants.
11. Maintain access to adjacent areas at all times.

B. Protection of Trees and Shrubs:
1. Protect trees and shrubs from damage.
2. Do not remove trees or shrubs unless authorized in the field by the Engineer.
3. Where trees which are to remain interfere with normal excavation operations, use the following procedures:
   a. Prior to excavation, carefully remove trees with trunk diameters of less than 4 inches, shrubs, and other plantings in the way of construction.
   b. Do not machine excavate within a distance of three trunk diameters or 12 inches (whichever is greater) of any tree, and do not cut roots over 2-inch diameter unless approved by the Engineer.
   c. Excavate by hand when closer than three tree trunk diameters or 12 inches (whichever is greater).
   d. Tree tunneling where necessary to be determined by the Engineer.
   e. Tie back shrubs and tree limbs to prevent loss or damage.
   f. Prune damaged limbs and branches.
   g. Provide plank wrappers wired in place to protect tree trunks from being damaged by trench machinery, tractors, or trucks; remove protective planking as soon as practical after work in vicinity has been completed.
   h. Remove spoil banks from around trees by hand to prevent damage to trunks by construction machinery.
4. Replace trees and shrubs which cannot be protected or are damaged during construction:
   a. Replant or replace with stock of like character, quality, variety, size, shape, color and condition upon completion of the construction.
   b. Replace 4-inch diameter and larger trees with one 4-inch diameter size tree for each 6" of original tree diameter or fraction thereof.
   c. Replace trees smaller than 4-inch diameter and shrubs with same kind and type.
   d. As an option, replant trees smaller than 2-inch diameter or shrubs which are not damaged.
5. Remove and replace trees and shrubs which do not survive in good condition for a period of 18 months after time of planting.

C. Work on private property:
1. Construct work on private property within easements obtained by the Owner as shown on the Drawings.

a. The Contractor will be permitted construction privileges within construction easement lines as shown on the Drawings.
b. Perform the work in a manner such as to minimize damage to lawns, shrubs, trees and other plantings, driveways, sidewalks, fences, outbuildings, and any other miscellaneous improvements, using proper size and type of equipment.
c. The Engineer has the authority to prohibit the use of any equipment which in his judgment is too large or otherwise unsuitable for the conditions of the work on private property.

2. Remove and replace fences, outbuildings and other miscellaneous improvements in the way of construction to the satisfaction of the property owner.
3. When working in cultivated fields or gardens, remove original topsoil to a depth of 12 inches prior to excavation, and replace the topsoil to its original depth and grade upon completion of trench backfill.
4. Restore the private property to its original condition or better, free of debris, stones and excess materials.

3.3 TRENCHING

A. Do not advance trench excavation more than 50 feet ahead of completed pipe installation except as approved by the Engineer.

B. Provide and maintain sheeting, shoring, and bracing necessary for protection of the Work, adjacent property, and for the safety of personnel.
1. Remove temporary sheeting and bracing after backfilling to an elevation which will prohibit caving of exposed sidebanks.
2. Fill voids left by the withdrawal of sheeting with compacted sand.
3. The Engineer may direct that supports in trenches be cut off at any specific elevation to protect adjacent facilities or property. Compensation for support left in place will be negotiated.
4. No extra payment will be made for the supports left in place without the direction of the Engineer.
5. Do not leave supports within 4 feet of the ground or pavement surface in place without the permission of the Engineer.

C. Provide pumping, bailing, wellpointing, and construct ditches and dikes required to dewater and drain ground water, sewage, or stormwater to keep the excavation and site dry for the completion of the Work.

D. Excavation:
1. Excavate by open cut unless otherwise indicated on the Drawings.
2. Excavate trenches to the depths and grades necessary for the pipelines with allowances for bedding material.
a. Comply with the following minimum depth of cover unless otherwise noted on the Drawings.
b. Water pipelines: 6 feet.
c. Sewage and sludge pressure piping: 5 feet.

d. Air and gas piping: 3 feet.
e. Electrical or wiring conduits and cables: 30 inches.

3. Over-excavate organic, soft, spongy, or otherwise unsuitable soils found at or below the bottom of the trench to meet firm subsoil or as directed by the Engineer.
4. Comply with the following maximum trench widths at the top of pipelines:

Nominal Pipe Sizes (inches)	Trench Widths (inches)
12 or smaller	30
14 - 18	36
20 - 24	42
27 - 30	48
33 and larger	1-1/3 times pipe OD

3.4 EXCAVATION FOR APPURTENANCES

A. Excavate for manholes and similar structures to the depths as shown on the Drawings and to a distance sufficient to leave at least 12 inches clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.

B. Over-depth excavation beyond depths indicated on the Drawings that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the Engineer, and at no additional cost to the Owner.

3.5 BEDDING AND COVERING OF PIPE

A. General:
1. Bedding is defined as the shaped and tamped material which supports the pipes. Covering is defined as the compacted material which protects and covers the pipes.
2. Provide continuous bedding and covering for underground pipelines, except where concrete encasement, concrete cradles, boring or jacking are indicated.

B. Pipe bedding:
1. Provide compacted granular pipe bedding and covering material with a minimum thickness of 4 inches under pipe barrels and 2 inches under bells.
2. Wherever the trench is over-excavated due to the removal of unsuitable material, refill the excavated area to the bottom of the pipe bedding with material conforming to the IDOT "Standard Specifications" gradation No. CA 1 as indicated in the “Open Cut Pipeline Installation – Unsuitable Material Removal/Replacement Detail”.
a. Removal and replacement of material, or unsuitable material, to a depth of one foot below the bottom of the pipe barrel is considered incidental to installation of the pipe.

3. Wherever the trench is over-excavated to remove unsuitable material, install geotextile fabric between native soil and granular material:
    a. Install fabric to cover bottom and sides of trench to heights as follows:
        (1) For all flexible pipe and rigid pipe 24-inch and smaller: to envelop entire bedding and covering material and overlap 1-foot at the top.
        (2) For rigid pipe 27-inch and larger: to cover bedding material and from sides of trench to edge of pipe.
        (3) Where undercut is of a depth that requires more than one piece of fabric to provide envelope, provide sewn seams between sections of fabric.
4. Wherever two or more pipes or conduits are placed in the same trench or excavated area, backfill the trench with granular pipe bedding and covering material to support the uppermost pipe or conduit.
5. Provide sand bedding with a minimum thickness of 3 inches under electrical and wiring conduits and cables.

C. Pipe covering:
1. Following placement of pipe and inspection of joints, provide compacted granular pipe bedding and covering material for the full width of the trench to the following levels unless otherwise shown on the Drawings:
    a. To 12 inches above the top of the pipe for all pipe sizes.
2. Place granular pipe bedding and covering material in uniform loose layers not exceeding 8 inches thick.
    a. Compact each layer firmly by ramming or tamping with tools approved by the Engineer in such a manner as not to disturb or injure the pipe to yield a minimum density of 95 percent of maximum dry density as determined according to ASTM D1557 or AASHTO-T180.
3. Where trench is widened by installation of structures, jacking pits, or tunnel shafts, extend bedding and covering materials to total width of excavations and compact as noted in following section.
    a. As a contractor’s option, to eliminate compacting of the material, replace bedding and covering material with flowable fill at no additional cost to Owner.

3.6 TRENCH BACKFILLING AND COMPACTING

A. General:
1. Backfill trench from the top of pipe cover to topsoil, paving subgrade, or foundation level.
2. If trenches settle during the period of construction and within the guarantee period of the work, fill trench back to the surrounding grade, and restore the surfaces.

B. For trench in lawns, parkways, and other improved areas not subject to vehicular traffic:
   1. Backfill with excavated materials in uniform loose layer not exceeding 12 inches thick.
   2. Compact each layer of trench backfill materials to yield a minimum of 85 percent of maximum dry density as determined according to ASTM D1557 or AASHTO-T180.

C. For trench in unimproved areas and cultivated fields:
   1. Backfill with excavated materials.
   2. Provide crowned surface to compensate for settlement.

D. For trench in streets, parking areas, driveways, sidewalks, curb and gutter, or within 5 feet of any proposed curb and gutter, sidewalk, or other paved areas:
   1. Backfilling with granular backfill materials:
      a. Place in uniform loose layer not exceeding 12 inches thick and compact with vibrating roller or equivalent.
      b. Water jetting may be used in lieu of vibratory compaction when approved by the Engineer.
      c. Water jetting may not be used in lieu of vibratory compaction.
      d. Fill the top of trenches with temporary aggregate pavement material to the depth(s) required to provide aggregate base and pavement base, binder and surface courses of the depths(s) shown in the Details in the Drawings.
   2. Compacting requirements:
      a. Compact each layer of trench backfill materials to yield a minimum density of 90 percent of maximum dry density as determined according to ASTM D1557 or AASHTO T-180.
      b. Determine the density of compacted backfill at intervals of not more than 500 feet at locations selected by the Engineer.
      c. Comply with the requirements of Sections 311 and 351 of the IDOT “Standard Specifications”.
      d. Provide the services of an independent testing laboratory for the density tests complying with the pertinent provisions of Section 01 45 29.
   3. Maintain temporary aggregate pavement level with adjoining pavement surfaces until the permanent pavement is placed.

3.7 BACKFILL AND BEDDING FOR APPURTENANCES

A. Provide 3 inches of sand or granular bedding material unless otherwise shown on the Drawings.

B. Do not backfill until new concrete has properly cured, and any required tests have been accepted.

C. Backfill in lawns and landscaped areas with excavated materials.

D. Backfill in pavement around manholes, catch basins, inlets, valve vaults, and other structures as directed by the Engineer with granular backfill materials.

3.8 FINISH GRADING

A. General:
   1. Provide finish grading and filling to achieve the lines and grades.
   2. Slope grades to drain away from structures.
   3. Replace culverts damaged during the construction with new culverts of the same size and type unless instructed differently in other sections of these Specifications.

B. Finish grading:
   1. Except where mounding over trenches is specified, grade smooth areas of the Work including previously grassed areas that have been disturbed, and adjacent transition areas.
   2. Fill and compact depressions from settlement and round tops of embankments and breaks in grade.
   3. Protect newly graded areas from traffic and erosion. Repair settlement or washing away that may occur prior to surface restoration and re-establish grades to the required elevations at no additional cost to the Owner.

C. Disposal of waste excavated material:
   1. Remove unsuitable and surplus excavated materials not used for backfilling from the project site.
   2. Do not deposit on public or private property without written permission from property owner or authorized representative of appropriate public agency.

3.9 TEMPORARY HOT-MIX PAVEMENT SURFACE

A. Provide a premixed hot-mix asphalt wearing surface for use during the period between backfilling the trench and constructing the permanent pavement surface at locations as shown on the Drawings or as directed by the Engineer.
   1. Comply with requirements of Section 32 10 00 of these Specifications.

B. Remove the temporary pavement surface at the time of permanent pavement construction.

3.10 WATER MAIN REPAIR

A. Whenever existing water mains and water service pipes are damaged during construction, stop the pipe installation work and immediately repair the damaged portion of the existing piping.

B. Contact the Engineer and Owner immediately to report the location and extent of the damage.

C. Repair the water main with methods complying with the “Standard Specifications for Water and Sewer Construction in Illinois”, and any additional requirements required by the Owner.

D. Utilize only materials of repair as noted in the products section of this specification or as dictated by the Owner.

E. Where water services have been stripped or pulled from the water main, replace the corporation stop as instructed by the Engineer and Owner, and replace the water service pipe to a point as directed by the Owner.

F. Comply with disinfection requirements as dictated by the Owner.

G. Do not cover the repair until work is inspected and approved by Owner.

3.11 ROCK EXCAVATION

A. Rock excavation is classified as excavation requiring blasting or jack hammering to remove solid rock formations such as boulders, concrete, or solid masonry exceeding one cubic yard in volume.

B. Allowable trench width for open trench excavation:
   1. For pipes up to 18 inches ID: 30 inches.
   2. For larger pipes: The outside diameter of the pipe plus 8 inches.
   3. Pipe bedding: 6 inches below the bottom of the pipe.
   4. Manholes and similar structures not requiring formwork: 1-foot outside such structures.

C. Lay pipelines constructed in trenches in rock to the grades shown on the Drawings on a continuous bed of compacted gravel or crushed stone.
   1. Dispose of excavated rock; do not use as backfill.

D. Blasting:
   1. Blasting can be performed only with the Owner’s approval.
   2. Comply with rules and regulations of authorities having jurisdiction.
      a. Issue signals of danger before firing a blast.
      b. Do not blast adjacent to any portion of the completed work unless proper precautions are taken to protect the work.
      c. Use only persons who are licensed as required by state or local regulations, and who are experienced in the techniques of blasting, to perform blasting operations.
   3. Repair or reconstruct structures, pipelines, or other property damaged by blasting operations.

3.12 DRAIN TILE REPLACEMENT

A. Replace all drain tile disturbed or damaged with new pipe of the same size, at same grade and slope, and utilizing flexible couplings for connection to existing pipe.

B. Indicate location, depth, and size of drain tile on Job Set of plans.

C. Provide aggregate backfill from bottom of trench to a minimum of 12 inches above new drain pipe.

D. Inform Engineer immediately when drain tiles are encountered as a part of the trenching operation.
   1. Drain tile repair conducted without the observance of the Engineer will not be paid for.

3.13 PIPE TRACER WIRE

A. See Section 33 11 43 for PVC water main tracer wire options in open cut applications.

3.14 PIPE MARKING TAPE

A. See Section 33 11 43 for PVC water main pipe marking tape options in open cut applications.

3.15 CASING PIPES – OPEN CUT INSTALLATION

A. Install casing pipes to the lengths as indicated on the Drawings.

B. Comply with requirements of Section 01 22 29 of these Specifications regarding installation of carrier pipe, filling of casing with sand, and sealing of casing ends.

END OF SECTION

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Provide erosion and sedimentation controls as shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References:
   1. “Illinois Urban Manual”, a technical manual designed for Urban Ecosystem Protection and Enhancement, prepared by the United States Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) and the Illinois Environmental Protection Agency (IEPA), latest revision.

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 GENERAL

A. Provide erosion and sedimentation controls in accordance with the “Illinois Urban Manual” and the IDOT "Standard Specifications".

B. Provide manufacturer's certification that product meets the minimum specified value, if requested by the Engineer.

2.2 TEMPORARY EROSION AND SEDIMENT CONTROL SYSTEMS

A. Inlet Protection Filter:
   1. Provide a drainage structure inlet filter assembly consisting of a steel frame, replaceable geotextile fabric bag, reinforced filter basket, stainless steel band suspended from the frame, and an overflow feature.
   2. Provide a frame of rigid galvanized steel meeting the requirements of ASTM-A36.
   3. Provide a filter bag constructed of a non-woven geotextile fabric with the following properties:
      a. Minimum weight: 4 ounces per square yard.
      b. Minimum flow rate: 145 gallons per minute per square foot.
      c. Minimum silt and debris capacity: 2 cubic feet.
   4. Provide reinforced filter basket of polyester or stainless steel mesh.
   5. Acceptable products:
      a. FlexStorm Inlet Filter by Inlet & Pipe Protection, Inc.
      b. Catch-All by Marathon Materials, Inc.
      c. Or equal.

B. Silt bag:
   1. Provide filter or silt bags for dewatering pump discharge hoses that are utilized at well points or on dewatering pumps used to lower the water table and allow trench work or structure installation.
   2. Utilize bags made of non-woven geotextile material.
   3. Acceptable products:
      a. Silt Bag by Layfield.
      b. Dirtbag by Geo-Synthetics.
      c. Or equal.

2.2 EROSION CONTROL MAT

A. Knitted straw mat:
   1. Machine-assembled blanket of clean, weed-free straw from agricultural crops.
   2. Cover the top side of the mat with a photodegradable plastic (polypropylene) or biodegradable natural (jute fiber) mesh netting.
      a. Attach mesh to the mat with photodegradable or biodegradable knitting thread.

3. Supply blanket in protected rolled mat with a dry weight of 0.70 pounds per square yard minimum.
4. Acceptable products:
   a. S75BN by North American Green.
   b. Curlex II by American Excelsior.
   c. Or equal.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare subgrade for the installation of erosion and sedimentation controls systems to the lines and grades shown on the Drawings.
   1. Repair eroded or washed out areas prior to the installation of erosion and sediment control systems.

3.2 INLET PROTECTION FILTER

A. General:
   1. Verify the number and dimensions of the drainage structure frames for installation of the inlet filter assemblies.
   2. Inspect and clean filters weekly and after every rainfall.
   3. Dispose of debris removed at an approved location.
   4. Remove filter assembly as directed by the Engineer.
   5. The drainage structure inlet filter assembly will remain the property of the Contractor.

3.3 SILT BAG

A. Provide protection from sedimentation to storm sewers, streams, ponds, or wetlands during well pointing or trench dewatering by the use of silt bags or silt socks at the hose or pipe discharge points.

B. Dispose of collected silt or sediment offsite or at locations approved by the appropriate permitting authority.

END OF SECTION

SECTION 32 10 00.19

STREET, DRIVEWAY, AND SIDEWALK REPLACEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes replacement of streets, driveways, curbs and gutters, and sidewalks removed or damaged during pipeline construction.

B. Provide base course and surface courses as specified herein, and as needed for a complete replacement of all streets, driveways, curbs and gutters, and sidewalks.

C. Construct streets, driveways, concrete curbs and gutters, and sidewalks in accordance with IDOT "Standard Specifications for Road and Bridge Construction", hereby referred to as IDOT "Standard Specifications".

D. Related work:
   1. Comply with only the pertinent provisions of this Section for the type of replacement required for the Work.
   2. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 01 - General Requirements of these Specifications.

E. References – (Reserved).

1.2 SUBMITTALS – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 BASE COURSE

A. Aggregate:
   1. Provide well graded, 100 percent crushed gravel or crushed stone aggregate free of clay, loam, dirt, calcareous or other foreign matter conforming to the IDOT "Standard Specifications", gradation No. CA 6.

B. Hot-mix asphalt:
   1. Comply with applicable articles of Section 355 of the IDOT "Standard Specifications" and the most recent edition of IDOT District 1 Special Provisions, “HMA Mixture Design Requirements”, “Ground Tire Rubber (GTR) Modified Asphalt Binder”, “Friction Aggregate”, the BDE Special Provisions for “Hot-Mix Asphalt Density Testing of Longitudinal Joints”.
      a. Hot-Mix Asphalt Binder Course, IL 19.0, N50.
      b. 4% air voids @ 50 gyrations.

C. Portland Cement concrete:
   1. Comply with applicable articles of Section 353 of the IDOT "Standard Specifications" for materials and material preparation.

2.2 SURFACE COURSE

A. Aggregate surface course (Type A or Type B):
   1. Use crushed stone or crushed gravel complying with the IDOT "Standard Specifications" Articles 1004.01 and 1004.04 gradation No. CA 6.

B. Hot-mix asphalt: Comply with applicable articles of Section 406 of the IDOT “Standard Specifications” and the most recent IDOT District 1 Special Provisions, “HMA Mixture Design Requirements”, “Ground Tire Rubber (GTR) Modified Asphalt Binder”, “Friction Agreement” and the BDE Special Provision for “Hot-Mix Asphalt Density Testing for Longitudinal Joints”.
   1. Hot-mix asphalt surface course: Use Hot-mix asphalt Surface Course, Mix “D”, N50.
      a. Mix type: IL 9.5 mm.
      b. 4% air voids @ 50 gyrations.
   2. Hot-mix asphalt binder course:
      a. Use Hot-mix asphalt Binder Course, IL-19, N50.
         (1) Mixture type: IL 19.0.
         (2) 4% air voids @ 50 gyrations.
   3. Hot-mix asphalt leveling binder:
      a. Use Hot-mix asphalt Leveling Binder (Machine Method), N50.
         (1) Mixture type: IL 9.5 mm.
         (2) 4% air voids @ 50 gyrations.
   4. Hot-mix asphalt driveway:
      a. Use Hot-mix asphalt Surface Course, Mix “D”, N50.
         (1) Mixture type: IL 9.5 mm.
         (2) 4% air voids @ 50 gyrations.

C. Portland Cement concrete driveway pavement:
   1. Comply with Section 423 of IDOT "Standard Specifications" for materials and material preparation.

D. Portland Cement concrete walk:
   1. Comply with applicable requirements of Section 424 of the IDOT "Standard Specifications".

E. Detectable warnings:
1. Comply with Section 424.09 of IDOT “Standard Specifications” for materials, installation and certification requirements.

2.3 PROTECTIVE COAT

A. Use combination of 50 percent boiled linseed oil and 50 percent petroleum spirits by volume.
1. Comply with Section 1023 of the IDOT "Standard Specifications".

2.4 TEMPORARY HOT-MIX ASPHALT PAVEMENT MATERIAL

A. Provide hot-mix asphalt during summer months while plants are operating.

B. Materials:
1. Hot-mix asphalt binder or surface course, Mix “D”, N50.
a. See paragraph 2.2, Hot-mix asphalt binder course and Hot-mix asphalt surface course.

C. Provide asphalt (cold-patch) wearing surface during winter months when hot-mix is not available.

D. Minimum compacted thickness: 2 inches.

2.5 PAVEMENT MARKINGS

A. General:
1. Comply with IDOT “Standard Specifications” applicable articles of Sections 780, 781, and 783, for all preparation and materials to remove and replace all obstructed pavement markings.

B. Materials - Permanent:
1. Thermoplastic: Article 1095.01.

PART 3 - EXECUTION

3.1 GENERAL CONSTRUCTION REQUIREMENTS

A. Comply with the applicable articles of the following Sections of the IDOT "Standard Specifications" except as modified herein:
1. Base courses:
a. Aggregate Type A or Type B: Section 351.
b. Hot-mix asphalt: Section 355.
c. Portland Cement concrete: Section 353.

2. Surface courses:
   a. Aggregate, Type A, or Type B: Section 402.
   b. Hot-mix asphalt: Section 406.
   c. Portland Cement concrete: Section 420.
3. Prime coats: Section 406.
4. Curb and gutter: Section 606.
5. Portland Cement concrete driveways: Section 423.
6. Area Reflective Crack Control Treatment, System A: Section 443.
7. Local Quality Assurance/Quality Management QC/QA, Special Provision LR-1030-2.
8. Road Surface Testing: Section 407.09

B. Maintain the temporary pavement material installed during trench backfilling as temporary driving surface.
   1. Provide and maintain temporary culverts or other drainage devices.
   2. Shape the roadbed to provide positive drainage.

3.2 REMOVAL OF EXISTING PAVEMENT SURFACES

A. Remove and dispose of all existing pavement surface materials as necessary to complete the Work.
   1. Remove all existing street and driveway pavements, including surfaces, bases and stabilized subbases, curbs and gutters, and sidewalks to a width of not less than one foot on undisturbed ground on each side of the trench excavation.
   2. Saw cut to a full depth to provide a straight line joint between the existing pavement, curb and gutter or sidewalk which will remain and the portion to be removed and replaced.
      a. Remake the saw cut joint as required at the time of resurfacing.
   3. Do not use any broken pavement, curb and gutter or sidewalk materials for backfilling the trench.

3.3 REPLACEMENT OF PAVEMENT SURFACES

A. Reconstruct all street and driveway pavement including surfaces, bases, and stabilized sub-bases, curbs and gutters, and sidewalks that are removed or damaged as a result of the construction.
   1. Set all manholes, valve vaults, inlets, service boxes, and other structures and appurtenances to the established finish grade before pavement replacement.
   2. Construct in accordance with the details as shown on the Drawings.
   3. Replace all surface courses, and base courses to match the grade, cross-section, and thickness of existing, except:
      a. Comply with the minimum thickness as specified herein.

B. Base courses:
   1. Use existing temporary aggregate pavement material installed during trench backfilling as aggregate base.

2. Remove portion of the existing temporary aggregate pavement material necessary to install base, binder and surface courses.
   a. Scarify, grade, and shape the aggregate base courses.
   b. Place and compact additional material as directed by the Engineer.
3. Reuse the removed temporary pavement material for any of the following:
   a. Trench backfill or bedding.
   b. Temporary pavement at another location.
   c. Fill material for subgrade removal and replacement.
   d. Subbase granular material or aggregate base course if the Engineer determines that there is not significant segregation or contamination of the material and if it is constructed as specified in these Specifications.
4. Replace existing PCC base course with a minimum of 10 inches of Portland Cement concrete base course.
5. Driveway replacement shall include a minimum of 3 inches of aggregate base course.
6. Brick driveway replacement shall include a minimum of 8 inches of aggregate base course.

3.4 PRIME COATS

A. Bituminous prime coat:
   1. Apply prime coat to all aggregate base courses prior to installation of asphalt binder courses at a minimum rate of 0.40 gallons per square yard.
      a. Apply prime coat to saw-cut edges of existing pavement or driveway that abuts trench limits, by hand swabbing, if necessary.
   2. Apply prime coat to all existing concrete or asphalt surfaces prior to installation of new hot-mix asphalt leveling binder, binder, or surface courses at a rate of 0.05 to 0.10 gallons per square yard.
      a. Prime may be eliminated between new binder and surface courses only when surface course is applied immediately after binder course, when binder has cooled to the appropriate temperature.
      b. Apply prime coat to new binder course if traffic has been allowed on binder course prior to installation of surface course at a rate of 0.10 gallons per square yard.
   3. Do not apply when ambient temperature is less than as specified by IDOT Section 406, or when local conditions indicate that rain is imminent.

3.5 SURFACE COURSES

A. Hot-mix asphalt binder courses and surface courses:
   1. Install hot-mix asphalt binder with a minimum thickness of 2½ inches and hot-mix asphalt surface courses with a minimum thickness of 1½ inches to attain a minimum total thickness of 4 inches.
      a. For hot-mix asphalt driveways, install hot-mix asphalt surface course with a minimum thickness of 3 inches.
      b. Install binder and surface course with greater thicknesses if so indicated on the Drawings.

(1) Install 7 inches of binder and 2 inches of surface course on Louise Ray Parkway.
(2) Install 4 inches of binder and 2 inches of surface course on Henderson Avenue, Williamson Avenue, Woodruff Road, and Charlesworth Avenue.

c. Install thick binder courses in lifts approved by Engineer and provide steel plate over trenches if necessary to allow cooling.

2. Repair settled trenches, spalled asphalt, and other defective binder before placement of hot-mix asphalt surface course.
3. Resaw-cut edges of trench limits, if necessary, to provide a clean-straight edge prior to installation of hot-mix asphalt surface course.

B. Portland Cement concrete street or driveway pavement:
1. Replace concrete street pavement with a minimum of 12 inches of Portland Cement concrete.
2. Replace residential concrete driveway pavement with a minimum of 6 inches of Portland Cement concrete.
3. Replace commercial and industrial concrete driveway aprons with a minimum of 8 inches of Portland Cement concrete.
4. Provide steel reinforcing bars equal in size and spacing to reinforcement of original pavement.
5. Provide 6 x 6-W4.0 x W4.0 welded wire fabric if steel reinforcing does not exist.
6. Provide #4 grade 60 steel dowels around total perimeter of sawcut and adjacent curb and gutter where PCC pavement is replaced.
a. Provide 24-inch long dowels.
b. Drill existing concrete to a depth of 12 inches and set dowels with epoxy.
c. Space dowels at 24 inches center to center.

C. Aggregate surface courses and driveways:
1. Replace aggregate surface courses and driveways with a minimum of 8 inches of surface aggregate.

D. Brick driveways:
1. Make record of the existing layout and pattern prior to removal of the existing driveway apron.
2. Bricks shall be carefully salvaged and placed near the driveway from which they were taken.
3. Provide new paving brick meeting ASTM C902 to replace any damaged pavers.

3.6 CURB AND GUTTER

A. Replace curb and gutter with curb and gutter of the same size and cross-section.

B. Provide protective coat if so directed by the Owner.

C. Provide two 1/2-inch steel reinforcing bars in full length of new curb and gutter and two 12-inch long slip dowels extended 6 inches into existing curb and gutter.

3.7 SIDEWALKS

A. Construct to match existing walks.

B. Portland Cement concrete walks:
   1. Erect temporary forms for placement of concrete as specified in Article 424.05 of the IDOT "Standard Specifications".
   2. Construct in accordance with applicable articles of Section 424 of the IDOT "Standard Specifications".
      a. Provide a minimum thickness of 5 inches.
      b. Provide a minimum thickness of 6 inches through residential driveway aprons and 8 inches through commercial and industrial driveway aprons.
   3. Provide ramps accessible to the disabled in locations as shown on the Drawings and in accordance with current IDOT Highway Standard Details.
      a. Refer to IDOT Standard Details 424001, 424006, 424011, 424016, 424021, and 424026, latest revision.
   4. Provide detectable warnings at ramps as specified in Section 424.09 of IDOT's "Standard Specifications".

3.8 TEMPORARY ASPHALT PAVEMENT SURFACE

A. Provide a hot-mix asphalt wearing surface for use during the period between backfilling the trench and constructing the permanent pavement surface.

B. Provide 2-inch (compacted) minimum wearing surface.
   1. Utilize mechanical tamper, vibrating tamper, or self-propelled roller to achieve compaction.
   2. To facilitate extra compaction by traffic, surface of patch may be finished up to 1/2-inch above existing pavement.
   3. Provide smooth, drivable surface, free of ruts or depressions.
   4. Remove all loose materials from edges of patch, and provide temporary sawcuts if directed by the Engineer.

C. Utilize premix asphalt (cold patch) wearing surface only during winter months when hot-mix asphalt is not available.
   1. Comply with paragraph 3.8 B. when installing asphalt cold-patch.

D. Remove and dispose of all temporary asphalt pavement surface materials at the time of permanent pavement construction.

3.9 STRUCTURE ADJUSTMENT

A. Comply with applicable articles of Section 603 of IDOT "Standard Specifications" for materials and installation except as modified below:

1. Do not use steel, ductile iron, or cast iron adjusting rings.
2. Do not use common brick.

B. Provide watertight joints between concrete adjusting rings, frame, and structure when adjusting sanitary sewer manhole frames.

3.10 PAVEMENT MARKINGS

A. General:
1. Replace all existing pavement markings that are removed or damaged during pipe installation operations.
2. Mark locations (by dimensions) on Job Plan of all existing pavement lane markings, turn arrow, stop bars, and parking stall markings prior to excavation.
3. Replace all existing markings after placement of final surfaces.
4. Replace pavement markings with same kind and type unless otherwise noted on the Drawings or in Contract Documents.

B. Removal:
1. Remove pavement markings or reflectors per applicable articles of IDOT "Standard Specifications" Section 783.

END OF SECTION

SECTION 32 92 00.13

LAWNS AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Provide topsoil, seeding, sodding, and care of grass during establishment period for a complete surface restoration of lawns, parkways, and other areas disturbed as a result of the construction.

B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Provide a mixture of black dirt having at least 90 percent passing a No. 10 sieve, free of large roots, brush, sticks, weeds, and stones larger than 1/4-inch in diameter, and any other debris.

2.2 AGRICULTURAL LIMESTONE

A. Provide agricultural-grade ground limestone, ground sufficiently fine so that at least 80 percent will pass through a No. 8 sieve, containing not less than 80 percent calcium carbonate equivalent. Moisture content at time of delivery not exceeding 8 percent.

2.3 FERTILIZER

A. Provide commercial grade fertilizer , having nutrient content of 16 percent nitrogen, 6 percent phosphorus, and 24 percent soluble potash.

2.4 EXCELSIOR BLANKET

A. Excelsior blanket:
   1. Provide excelsior blanket consisting of a machine produced mat of wood excelsior of 80 percent 6 inches or longer fiber length.
   2. Provide cover with a 60-day photodegradable extruded plastic (polypropylene) or biodegradable natural (jute fiber) mesh netting having an approximate minimum opening of 5/8" x 5/8" to maximum opening of 2" x 2".
   3. Comply with the following:
      Minimum width: 24 inches.
      Minimum weight: 0.9 lbs./sq.yd.
      Minimum length of roll: 150 feet.

B. Provide 6-inch long staples of 11 gauge wire to hold blanket in place.

2.5 MULCH

A. Vegetative mulch:
   1. Provide vegetative mulch for seeded areas of a high-quality, air-dried straw of wheat, rye, oats, beans, or other approved straw, free from grass, broom sedge, noxious weeds, and weed seeds detrimental to growth of grass.

B. Hydraulic mulch:
   1. Provide virgin wood cellulose fibers complying with the following properties (percent by weight):

Moisture content	15
Organic matter, minimum	95
Water holding capacity	400
pH	4.3-8.5

2.6 SEED

A. Provide new crop seed furnished in standard sealed containers bearing seed tags showing purity, germination, and weed seed content, free of all primary noxious weed seeds and seeds of other noxious weeds as stipulated in the IDOT Standard Specifications, complying with the following minimum requirements:

Seed Type	Purity	Pure Live Seed
Kentucky Bluegrass	97%	80%
Red Top	90%	78%
Creeping Red Fescue	97%	82%
Tall Fescue	98%	83%
Annual Ryegrass	97%	85%
Perennial Ryegrass	97%	85%
Oats	92%	88%
Winter Wheat	92%	89%

B. In level areas to be used for lawns, use the following seed mixture:

Seed Type	Lbs/Acre
Kentucky Bluegrass	100
Perennial Ryegrass	60
Creeping Red Fescue	40

C. In level and sloped areas where reduced mowing will occur, use the following seed mixture:

Seed Type	Lbs/Acre
Tall Fescue	100
Perennial Ryegrass	50
Creeping Red Fescue	40
Red Top	10
Annual Ryegrass	15

D. For temporary erosion control seeding, use 130 lbs/acre of oats between March 1 and July 31 or 130 lbs/acre of winter wheat between August 1 to November 15.

2.7 SOD

A. Provide field or nursery grown sod that is native to the locality of the Project.

B. Provide sod that will not break, crumble or tear during handling and placing, free of stones, crab grass, noxious weeds, and other objectionable plants or substances injurious to plant growth.

C. Provide sod having at least 1-inch of soil adhering firmly to the roots and cut in rectangular pieces with the shortest side not less than 12 inches. At the time of cutting sod, mow the grass height not less than 2 inches nor more than 4 inches.

D. Do not use sod cut for more than 48 hours.

PART 3 - EXECUTION

3.1 TOPSOIL PLACEMENT

A. Scarify the compacted subgrade to a depth of 3 inches to receive the topsoil.

B. Spread at least 4 inches of prepared topsoil in areas of new grading raked smooth and level.

C. Grade flush with walks, curbs, and paving.

3.2 PREPARATION FOR SODDING OR SEEDING

A. Do not start preparation until all other site and utility work and finished grading within the areas to be seeded have been completed.

B. Till topsoil to a depth of at least 3 inches and smooth out all surface irregularities resulting therefrom. Leave area free of rocks or hard soil clods which will not pass through the tines of a standard garden rake.

C. Take a test of the site soils to determine the need for application of agricultural limestone (soil pH less than 7.0). If agricultural limestone is needed, then at least 7 days before applying fertilizer, spread lime uniformly in sufficient quantity to produce in the soil a pH of 7.0. Work lime thoroughly into topsoil to a depth of 3 inches.

D. Apply fertilizer uniformly at a rate of 7 lbs. per 1,000 sq. ft. Work fertilizer into soil prior to seeding or sodding.

3.3 SODDING

A. Provide sod in developed areas that were grassed prior to construction and as indicated on the Drawings. Sodding shall also be used in ditches and drainage swales and on all embankment slopes steeper than 3 to 1 unless protection is provided against erosion of seeding. At the Contractor's option, sodding may be substituted for seeding, but at no additional cost.

B. Place sod with the edges in close contact and alternate courses staggered. Lightly tamp or roll to eliminate air pockets. On slopes 2 to 1 or steeper, stake sod with not less than 4 stakes per square yard and with at least one stake for each piece of sod. Stakes shall be driven with the flat side parallel to the slope. Do not place sod when the ground surface is frozen or when air temperature may exceed 90 degrees F. Water the sod thoroughly within 8 hours after placement and as often as necessary to become well established.

C. In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground.

D. All exposed edges of sod shall be buried flush with the adjacent turf.

3.4 SEEDING

A. Seed all grassed areas disturbed by construction operations and not receiving sod, and as indicated on the Drawings.

B. Sow seed between September 1 and November 1, or in spring from time ground can be worked until June 1.

C. Apply seed during favorable climatic conditions. Do not seed in windy weather or when soil is very wet. Sow seed at the rate specified for each seed mixture.

D. Broadcasting seeding method:
   1. Sow seed with mechanical seeder in two directions at right angles to each other to achieve an even distribution of seed.
   2. After seeding, rake seed lightly into ground and roll with a roller weighing between 100 and 200 pounds per foot of roller width.

E. Hydraulic seeding method:
   1. When seed is applied with a hydraulic seeder, apply at a rate of not less than 1,000 gallons of slurry per acre containing the proper quantity of seed specified above.
   2. When using a hydraulic seeder, apply the fertilizer in a separate operation.

3.5 TEMPORARY EROSION CONTROL SEEDING

A. Seed all erodible/bare areas with a temporary cover crop within 7 days of disturbance, unless the area is to have an alternative temporary or permanent soil erosion control measure implemented within 7 days of disturbance, or as directed by Engineer.

B. Seed bed preparation will not be required if the soil is in a loose conditions. Light disking shall be done if the soil is hard packed or caked. Fertilizer will not be required.

3.6 EXCELSIOR BLANKET

A. Immediately after rolling seeded areas, place erosion control excelsior blanket on all seeded areas.

B. Apply erosion control in accordance with the IDOT "Standard Specifications".

3.7 MULCHING SEEDED AREAS

A. Immediately after rolling seeded areas, apply mulch at the rate of 2 tons per acre within 24 hours after seeding. Use vegetative mulch on all seeded areas unless hydraulic seeding method is used.

B. If the hydraulic mulch application method is to be used, apply the hydraulic mulch at a rate of 2,000 pounds per acre.

C. Apply mulch in accordance with the IDOT Standard Specifications.

3.8 WATERING

A. Immediately after placing erosion control matting or mulch, water seeded areas thoroughly with a fine mist spray. Keep soil thoroughly moist until seeds have sprouted and achieved a growth of 1-inch. For sod, immediately begin watering and continually keep moist until the sod has firmly knit itself to the topsoil.

3.9 PROTECTION OF WORK

A. Protect newly seeded and sodded areas from all traffic by erecting temporary fences and signs. Protect slopes from erosion. Properly and promptly repair all damaged work when required.

3.10 APPLICATION OF FERTILIZER

A. Six weeks after completion of seeding or sodding apply granular fertilizer over all areas at the rate of 2 lbs. of nitrogen nutrients per 1,000 sq.ft. of area.

3.11 CLEAN-UP

A. At the time of final inspection of work, but before final acceptance, remove from seeded and sodded areas all debris, rubbish, excess materials, tools, and equipment.

3.12 MAINTENANCE

A. Provide watering, mowing, and replanting and continue as necessary until a close healthy stand of specified grasses is established.

B. Replace lawns not showing a close uniform stand of healthy specified grasses at the end of the guaranty period and maintain until acceptance.

END OF SECTION

SECTION 33 05 23.16

WATER SERVICES DRILLED UNDER PAVEMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes water service pipes installed by the trenchless horizontal directional drilling (HDD) method as shown on the Drawings, as specified herein, and as needed for a complete installation.

B. Provide labor, materials, tools, and equipment necessary to perform all work specified in this Section.

C. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

1.2 SUBMITTALS

A. Comply with pertinent provisions of Section 01 33 01.

B. Submit shop drawings, including:
   1. Manufacturer's data on installation procedures.
      a. Obtain approval prior to beginning work.

C. Submit detailed construction scheduling plan at preconstruction meeting.
   1. Comply with all portions of Section 01 32 16 concerning schedules and submittals.
   2. Provide detailed plan of means and methods to maintain clean and safe conditions in the event drilling material escapes to surface or adjacent storm sewers, including list of material and equipment that will be on-site during drilling and pipe insertion.

D. Prepare a written, comprehensive contingency plan to address the response to, and clean-up of, hydrofracture (frac-outs) and surface spill events (release events).
   1. Provide and submit the contingency plan at the Preconstruction Meeting in accordance with Project Meetings – Section 01 31 19 and Submittals – Section 01 33 01.

1.3 GENERAL CONSTRUCTION REQUIREMENTS

A. Comply with the requirements of the permit issued by the controlling agency.

B. Provide the insurance and other information required for the above referenced permits.

C. Notify the controlling agency of the construction schedule not less than 10 days prior to the start of the construction.

D. Coordinate and pay for inspection services by controlling agency.

E. Provide all excavation, pits, installation and removal of tight sheeting, leaving of sheeting in place if indicated on the Drawings, backfilling of pits, compaction of excavated materials, and providing and compacting granular backfill materials where indicated on the Drawings.

PART 2 - PRODUCTS

2.1 PIPE

A. Service lines: Type K soft temper seamless copper water tubing complying with ASTM B-88.

B. Water service corporation stops, curb stops, and service boxes:
   1. Comply with Section 33 11 43.

2.2 INSERTION AND RECEIVING PITS

A. Sheeting: Comply with OSHA requirements.

B. Granular backfill material:
   1. Comply with Section 31 23 79.

2.3 DIRECTIONAL DRILLING SYSTEMS

A. Compact directional drilling systems.
   1. Provide system capable of working in tight conditions.
   2. Acceptable systems:
      a. GRUNDODRILL by TT Technologies, Inc.
      b. Or equal.

B. Pit launched mini-directional drill system.
   1. Provide package system capable of being installed in a pit small enough to be inserted in parkway tight conditions.
   2. Acceptable systems:
      a. GRUNDOPIT by TT Technologies, Inc.
      b. GRUNDOPIT K Keyhole by TT Technologies, Inc.
      c. Or equal.

PART 3 - EXECUTION

3.1 GENERAL

A. Provide all excavation, insertion and receiving pits, piping, and security.

B. Install pipes.
   1. Location of pipes will be determined in the field at time of construction.

C. Location, protection, repair or replacement of underground utilities will be complete responsibility of the Contractor.
   1. No additional compensation will be allowed for damage to underground utilities, or time lost due to utility repair or relocation.

3.2 INSERTION AND RECEIVING PITS

A. Provide pits as required to insert drilling equipment and install pipe.
   1. Provide tight sheeting where required to provide protection to public, permitting agency and public property, and adjacent utilities.
   2. Comply with OSHA requirements for type, installation, and removal of sheeting.
   3. Leave sheeting in place where indicated on the Drawings.
   4. Provide fencing of pits to provide protection to the public and security.

B. Provide pits of length and width as necessary to install pipes and sized to fit area available for Work.

C. Provide dewatering as required to allow excavation of pits and installation of pipes.
   1. Provide protection to environment from erosion or sedimentation resulting from all pumping operations.

D. Backfilling of pits:
   1. Backfill with compacted special granular backfill materials whenever pit is below or within 2 feet of paved surfaces or curb and gutter or where indicated on the Drawings.
   2. Backfill with compacted excavated materials where special granular backfill material is not indicated.
   3. Comply with compaction requirements outlined in Section 31 23 79.
   4. Re-grade slopes and ditches to match preconstruction condition and adjacent area.
   5. Remove all construction debris, materials, excess excavated material, and sheeting from construction site upon completion of the Work.
   6. Restore areas disturbed as outlined in Section 32 10 00 for Pavements, and Section 32 92 00 for Lawns and Grasses.

3.3 SERVICE PIPE INSTALLATION

A. Install water service pipe below paved areas by use of directional drilling method.

B. Install water service pipe outside of paved areas by use of open cut methods, in compliance with Section 33 11 43 of these Specifications.

C. Make connections to new water main and existing services as outlined in Section 33 11 43 of these specifications.

END OF SECTION

SECTION 33 05 23.43

PIPE CASING (BORED OR JACKED)

PART 1 - GENERAL

1.1 SUMMARY

A. This Section describes pipes installed by jacking and mining or boring methods as shown on the Drawings, as specified herein, and as needed for a complete installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

C. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

1.3 QUALITY ASSURANCE – (Reserved).

1.4 DELIVERY, STORAGE, AND HANDLING – (Reserved).

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

1.7 GENERAL CONSTRUCTION REQUIREMENTS

A. Comply with the requirements of the permit issued by the controlling agency.

B. Comply with the requirements of OSHA for the installation of water main via boring methods.

C. Provide the insurance and other information required for the above referenced permits.

D. Notify the controlling agency of the construction schedule not less than 10 days prior to the start of the construction.

E. Coordinate and pay for inspection services by controlling agency.

PART 2 - PRODUCTS

2.1 CASING PIPE

A. Provide new steel casing pipe as required by the construction permit issued from the Agency having jurisdiction, conforming to ASTM A139 Grade B with continuous field-welded butt joints in accordance with AWWA C206, a minimum yield strength of 35,000 psi, and the following minimum wall thickness:

Nominal Pipe Size	Minimum Wall Thickness - Inches Under Highway	Under Railroad
36-inch	0.375	0.5625

B. The casing wall thicknesses shown above are minimum thicknesses based on highway/transportation department or railroad requirements. The Contractor shall determine if wall thicknesses need to be increased for pipe ramming purposes.

2.2 CARRIER PIPE

A. Comply with the requirements specified in pertinent Sections of these Specifications.

B. Provide restrained joint type pipe for all carrier pipe installed within the casing pipe.

2.3 CARRIER PIPE JOINT PROTECTION

A. Provide pipe bell over-insertion protection system for PVC pipes being installed within casing pipes.
   1. Provide two part system comprised of an expansion retention spring and a bolt-on bell stop comprised of ductile iron coated with two coats of liquid thermoset epoxy.
   2. Acceptable products:
      a. Mega-Stop Series 5000 bell protection system.
      b. Or approved equal.

2.4 CARRIER PIPE SUPPORT

A. Casing Spacers:
   1. Bands: Molded high density polyethylene, 304 stainless steel, or 14 gauge (minimum) hot rolled and pickled steel.
   2. Steel band coating: Minimum 10 mil of fusion bonded PVC coating.

3. Steel band liner: Minimum 0.090-inch PVC.
4. Bolts, washers, and nuts: 304 stainless steel.
5. Runners: Glass reinforced or glass filled high density reinforced plastic.
6. Casing spacer configuration: Restrained, in all directions.
7. Spacing: One spacer on each side of and a maximum of 12 inches from each joint, and a minimum of one between the joints, with additional spacers and as recommended by casing spacer manufacturer.
8. Acceptable products:
   a. PSI.
   b. Advance.
   c. Cascade.
   d. Raci by P.W.M.
   e. kwik-ZIP HDX Series.
   f. Or approved equal.

2.5 CASING END SEALS

A. Use rubber end seals made specifically for this purpose.

2.6 CASING VOID PRESSURE GROUT

A. Grout:
   1. Use clean dry concrete mix, composed of one part Portland cement and 10 parts of sand and gravel by volume, or other mix approved by the Engineer.

B. Low density cellular concrete grout:
   1. Minimum net density: 45 pcf.
   2. Minimum compressive strength at 28 days: 160 psi.
   3. Acceptable products:
      a. Mearl Geofoam Liquid Concentrate.
      b. Or equal.

2.7 CASING INSTALLATION AND RECEIVING PITS

A. Sheeting: Comply with OSHA requirements.

B. Fencing:
   1. Seven foot high chain link, with 2½-inch line posts sunk a minimum of 2 feet into the ground.
   2. Or approved equal.

C. Granular backfill material:
   1. Comply with Section 31 23 79.

2.8 CASING CORROSION PROTECTION SYSTEMS

A. Anodes: 17-pound magnesium type.
   1. Anode connections: Welded.

2.9 BORING MACHINE

A. Provide Small Boring Unit (SBU) or other methods with disc-cutter head assembly that can bore through dolomite bedrock with trailing 36-inch steel casing pipe.

B. Provide equipment capable of cutting through bedrock with intact compressive strength of up to 10,000 psi.

PART 3 - EXECUTION

3.1 CASING REQUIREMENTS

A. Place carrier pipes inside a casing pipe except where casing pipes are acting as the carrier, or unless otherwise shown on the Drawings.

3.2 CASING PIPE WITH CARRIER PIPE

A. General:
1. Casing installation method will be Contractor's option, but no additional compensation will be allowed for rock or debris removal, or re-setups.

B. Casing pipes:
1. Install casing pipes a minimum of 36 inches in diameter unless otherwise indicated on the Drawings.
2. Selection of casing pipe diameter above the minimum diameter will be at the Contractor’s discretion.
3. Utilize Small Boring Unit (SBU) or other methods capable of cutting through dolomite limestone bedrock for excavation and removal of excavated materials.
4. Jacking and mining method: Utilize manual labor augmented with air spades, special knives, tunneling wheels, etc. for excavation and removal of the excavated materials.

C. Casing excavation:
1. Limit hole diameter not to exceed the outside diameter of the pipe by more than 1-inch.
2. Where unstable soil conditions are found to exist, conduct operation in such manner as not to damage the facility being crossed.
3. If excessive voids or too large a casing hole result from the operation, fill voids on the outside of casing pipes by pressure grouting through fittings installed in the casing pipe wall.
4. If it is necessary to abandon a casing excavation, take prompt remedial measures, subject to the approval of the Engineer and the controlling agency of the facility being crossed.

D. Carrier pipe support:
   1. Use a minimum of three (3) casing spacers per each pipe length on 6-foot centers, with size and required number of spacers as recommended by the manufacturer to support carrier pipe for its entire length inside the casing pipe.
      a. Filling of annular space between carrier pipe and casing pipe is NOT required.
   2. Seal ends of the casing pipe between casing and carrier pipes with concrete brick and mortar, concrete, or rubber end seals specifically made for this purpose.

E. Carrier pipe joint protection:
   1. Provide device that clamps over pipe and protects against over insertion of the spigots into bells of PVC pipe while pipe is being pushed into position within a casing.
   2. Position retention ring over the pipe manufacturer's reference mark and assemble the bolted bell stop behind the retention ring in accordance with manufacturer's recommendations.

F. Install restrained joint type carrier pipe within the casing pipe. Pipe can be pushed or pulled into place inside the casing pipe.

3.3 CORROSION PROTECTION

A. Provide magnesium anode bags where indicated on the Drawings or required by the controlling agency.
   1. Provide copper connector cable from anode bags to casing.
   2. Weld connector cable to steel casing.
   3. Provide a minimum of 2 bags at each end of the casing.

B. This work is considered incidental to the installation of the casing.

3.4 BEDROCK DEPTH TESTING

A. Install casing pipe entirely within bedrock.
   1. Verify depth of bedrock at both pit locations prior to installation.
   2. This work is considered incidental to the installation of the casing.

3.5 INSTALLATION AND RECEIVING PITS

A. Provide pits as required to install and receive casing and carrier pipes.
   1. Provide tight sheeting where required to provide protection to public, permitting agency and public property, and adjacent utilities.
   2. Comply with OSHA requirements for type, installation, and removal of sheeting.
   3. Leave sheeting in place if indicated on the Drawings.

4. Provide fencing of pits to provide protection to the public, if shown on the Drawings, and security.
    a. Submit type and systems to Owner at Pre-construction Meeting for approval.
5. Provide pit or shaft covers if requested by Owner.

B. Install water main a minimum of 3 feet below approximate bedrock depth to avoid installation in mixed media.

C. Provide pits of length and width as necessary to install casing pipes and sized to fit area available for Work.
    1. Where area of Work is limited, utilize short lengths of casing if necessary.

D. Provide dewatering as required to allow excavation of pits and installation of pipes.
    1. Provide protection to environment from erosion or sedimentation resulting from all pumping operations.

E. Backfilling of pits:
    1. Backfill with compacted granular backfill materials where indicated on the Drawings.
    2. Backfill with compacted excavated materials where granular backfill material is not indicated.
    3. Comply with compaction requirements outlined in Section 31 23 79.
    4. Re-grade slopes and ditches to match preconstruction condition and adjacent area.
    5. Remove all construction debris, materials, excess excavated material, and sheeting from construction site upon completion of the Work.

END OF SECTION

SECTION 33 11 43

WATER DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Provide water distribution system as shown on the Drawings, as specified herein, and as needed for a complete and proper installation, and in accordance with the latest edition of the “Standard Specifications for Water and Sewer Construction in Illinois”, except as revised herein.

B. Provide labor, materials, tools, chemicals and equipment necessary to perform the pressure and leakage tests and disinfection.

C. Distribute door hangers provided by the Owner at various construction milestones of the project, as described in the General Notes. The distribution of door hangers is considered incidental to the installation of the new water main and no additional compensation will be allowed.

D. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Division 01 - General Requirements of these Specifications.

E. References – (Reserved).

1.2 SUBMITTALS

A. Shop Drawing Submittals – (Reserved).

B. Operation and Maintenance Manuals – (Reserved).

C. Certificates and Guarantees – (Reserved).

D. Spare Parts – (Reserved).

E. Furnish two (2) copies of bacteriological test reports.

1.3 QUALITY ASSURANCE

A. Ensure all brass and bronze alloys supplied with the products contain less than 15 percent zinc, unless otherwise specified.
   1. Brass that will come in contact with potable water shall contain no more than 0.25% lead.

a. Brass fittings shall be marked with industry standard marking to indicate the amount of lead (no lead, low lead, etc.) in the brass.
b. Brass for service saddles may contain more than 0.25% lead to improve ductility of the saddles.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Comply with pertinent provisions of Section 01 66 11.

1.5 SITE CONDITIONS – (Reserved).

1.6 MAINTENANCE – (Reserved).

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

A. General:
1. Provide ductile iron or PVC pipe materials where indicated on the Drawings.

B. Ductile Iron Pipe:
1. Provide ductile iron pipe complying with ANSI A21.51, thickness Class 52, with joints complying with ANSI A21.11.
a. Use cement lining complying with ANSI/AWWA C104/A21.4, standard thickness.
b. Exterior Coating:
(1) The exterior of ductile iron pipe shall be coated with a layer of arc-sprayed zinc per ISO 8179.
(2) The mass of the zinc applied shall be 200 grams per square meter of pipe surface area.
(3) A finishing layer of asphaltic coating shall be applied over the zinc coating.
i. The mean dry film thickness of the finishing coat shall not be less than 3 mils, with a local minimum not less than 2 mils.
(4) The coating system shall conform in every respect to ISO 8179-1 “Ductile iron pipes - External zinc-based coating - Part 1: Metallic zinc with finishing layer. Second edition 2004-06-01”.
c. In areas where petroleum contamination is present use Buna-Nitrile gaskets.
2. Provide restrained joint pipe system, where indicated on the Drawings, that utilizes one of the following methods:
a. Lock rings welded into place around pipe barrel.
b. Bolted rings installed around pipe barrels that fit inside pipe bells.

c. Gaskets which include stainless steel locking segments vulcanized into the gasket.
d. Mechanical joint retainer gland systems that provide locking segments shaped to pipe barrel that do not create stress points on pipe barrel.
(1) Do not use set screw type retainer glands.
e. Acceptable products:
(1) Meg-A-Lug System.
i. Series 1100 Megalug for MJ to pipe.
ii. Series 1700 Megalug Harness for push on joint.
iii. As recommended by manufacturer for connection to existing pipes.

C. PVC plastic pipe:
1. Pipe material: Use Class 12454A or B polyvinyl chloride complying with ASTM D1784.
2. Pipe 12-inch and smaller: Comply with AWWA C900 for Class 235 pressure pipe with a standard dimension ratio of 18.
a. Provide pipe manufactured with ductile iron outside diameters.
b. Provide pipe manufactured from a PVC stock with a starting hydrostatic design basis (HDB) of 4,000 psi and a finished HDB of 7,100 psi.
3. Use push-on bell and spigot type joints with elastomeric ring conforming to ASTM F-477.
4. Provide restrained joint pipe system, where indicated on the Drawings, that utilizes one of the following methods:
a. Mechanical joint retainer gland systems that provide locking segments shaped to pipe barrel that do not create stress points on pipe barrel.
b. Acceptable products for pipes:
(1) Meg-A-Lug System.
i. Series 2000PV Megalug for MJ to Pipe (C900).
ii. Series 1500 Megalug Harness for push on joint (C900).
iii. As recommended by manufacturer for connection to existing pipes.

D. Fittings:
1. Ductile iron fittings: Provide mechanical joints complying with ANSI A21.10 or A21.53.
a. Cement lining: Comply with ANSI A-21.4, standard thickness.
b. Bolts and nuts:
(1) Use A-304 stainless steel bolts with nuts and washers of series 300 stainless steel per ASTM A194.
(2) Duratron Sac Nuts or approved equal.
i. One sac nut per fitting.

E. Polyethylene sheet: Comply with ANSI/AWWA C105/A21.5:
   1. Thickness: Three layers of co-extruded linear low-density polyethylene (LLDPE) fused into a single thickness of not less than 8 mils.
   2. The inside surface of the polyethylene wrap to be in contact with the pipe exterior shall be infused with a blend of anti-microbial biocide to mitigate microbiologically influenced corrosion and a volatile corrosion inhibitor to control galvanic corrosion.
   3. Markings: The following information will be clearly marked on the sheet at minimum increments of 2 feet along its length:
      a. Manufacturers name or trademark.
      b. Year of manufacture.
      c. Minimum film thickness and material type (LLDPE).
      d. Applicable range of nominal pipe diameter size(s).
      e. Warning – Corrosion Protection – Repair Any Damage.
   4. Acceptable manufacturers:
      a. V-BIO® Enhanced Polyethylene Encasement.
      b. Or approved equal.

F. Conductivity appurtenances:
   1. Provide wedges of serrated silicon bronze or #10-copper cable and tapping devices specifically designed for this purpose.
   2. Use devices provided by the pipe manufacturer.
   3. Standard mechanical joints, Field-Lok, Megalug joints or similar joints/restrained joint systems do <u>not</u> provide conductivity.

G. Pipe tracer wire:
   1. See Section 31 23 79 for tracer wire options.

2.2 VALVES

A. Provide valves with clockwise closing direction.

B. Gate valves:
   1. Valves 3-inch through 14-inch:
      a. Design in accordance with AWWA C509 (cast iron body), or AWWA C515 (ductile iron body), bronze fitted, resilient wedge and seat type with non-rising stem and O-ring packing.
      b. Provide gear operator for valves 14-inch and larger.
   2. Provide mechanical joint ends for buried valves and ANSI Class 125 flange ends or mechanical joint ends for valve installed in vaults as indicated on the Drawings.
      a. Provide restrained type joints for all mechanical joint end valves.
      b. Provide and install nuts and bolts matching the nuts and bolts used for fittings.
   3. Acceptable valve manufacturers:
      a. American Flow Control.
      b. Clow.
      c. EJ.

C. Butterfly valves:
1. Valves 16-inch and larger:
a. Design in accordance with AWWA C504 for pressure Class 150B, cast iron body, rubber-seated, tight closing type suitable for buried service.
2. Provide mechanical joint ends for buried valves and ANSI Class 125 standard flange or Victaulic coupling ends for valves installed in vaults.
a. Provide restrained type joints for all mechanical joint end valves.
b. Provide and install nuts and bolts matching the nuts and bolts used for fittings.
3. Use valve shaft of either 18-8 or Type 304 stainless steel. Extend valve shaft through the valve disc and body into the operator.
4. Provide each valve with a fully enclosed, sealed, grease-packed integral geared manual operator with a 2-inch square operating nut.
5. Acceptable butterfly valve manufacturers:
a. Clow.
b. Pratt.

D. Silent Check Valves:
1. Valve Size: 24-inch
a. Provide globe-style silent check valve with Class 125 bodies constructed of ASTM A 126B cast iron bodies for pressure Class 150B. Design valve to begin closing as forward flow diminishes and fully closes at zero velocity preventing flow reversal and resultant water hammer.
b. Check valve to incorporate a center-guided, spring-loaded disc and have a short linear stroke that generates a flow area equal to the valve size.
2. Provide standard flat faced flanged joints meeting ANSI B16.1 for ANSI Class 125.
a. Provide and install Type 316 SST nuts and bolts matching the nuts and bolts used for fittings.
3. Provide globe disc concave to the flow direction. The check valve seat and disc are to be ASTM B584 C87600 lead-free bronze.
4. Check valve compression spring is to be ASTM A313 Type 316 stainless steel with ground ends.
5. Provide a BUNA-N resilient seal on the check valve seat for zero leakage.
6. Valves interiors and exteriors to be coated with an NSF/ANSI 61 certified fusion bonded epoxy in accordance with AWWA C550.
7. Acceptable silent check valve manufacturers:
a. a. Val-matic Model: 1824, 1BNZDXF
b. b. Or approved equal.

2.3 VALVE BOXES

A. Provide adjustable valve boxes on buried valves:
1. Valve box compatible with size and type of valve protected.
2. Extend box to finished grade.

3. Mark valve box cover "WATER" for potable water piping valves. Other valve box covers unmarked.
4. Stainless steel valve extension stems and 2-inch square operating nuts 2 inches below the cover.
5. Two valve operating tee wrenches with 2-inch square socket, 24-inch long, 1½-inch pipe handle, and 48-inch long 1½-inch pipe stem.
6. Acceptable manufacturers:
   a. EJ Series 8550.
   b. Tyler 6850.

B. Provide valve box stabilizer for all valve boxes.
1. Acceptable manufacturers:
   a. Alberico.
   b. American Flow Control.
   c. Adaptor, Inc.
   d. Or approved equal.

2.4 VALVE VAULTS

A. Precast:
1. Provide precast reinforced concrete manhole sections, bottoms, and flat top slabs complying with ASTM C478 unless otherwise indicated on Drawings.
2. Provide concentric cone section unless otherwise indicated on the Drawings.
3. Provide precast reinforced concrete monolithic or separate base.
4. Design flat slab tops for HL-93 wheel loading.

B. Concrete:
1. Provide 4,000 psi concrete using Type I Portland Cement complying with ASTM C150.

C. Mortar:
1. Mix one part Portland Cement to three parts fine aggregate.

D. Joints for precast sections:
1. Provide joints of either flexible watertight rubber gaskets or preformed bituminous plastic gaskets consisting of a homogeneous blend of refined hydro-carbon resins and plasticizing compound reinforced with inert mineral filler.
   a. Acceptable manufacturers:
      (1) Henry Company RN103 – RAM-NEK Preformed Flexible Plastic Gasket (Coils).
      (2) ConSeal Concrete Sealants, Inc., Type CS-102.
      (3) Or approved equal.

E. Steps:
1. Provide steps with a minimum width of 12 inches and a minimum projection of 5 inches.
2. Use steps consisting of copolymer polypropylene plastic with a continuous ½-inch steel reinforcement as manufactured by M.A. Industries, Inc.; cast iron steps, Neenah R-1980-I; or approved equal.

F. Frames and covers:
1. Provide cast iron frames and covers with heavy duty, indented top, with solid self-sealing lids and machined bearing surfaces, stamped with the word “WATER” and “CITY OF JOLIET”.
a. Acceptable products:
(1) Neenah R-1710,
(2) East Jordan 1050Z1,
(3) Or approved equal.

G. Flexible pipe connectors:
1. Provide flexible rubber gasket collar for connecting pipe to the manhole.
a. Comply with ASTM C923.
b. For pipe 24-inch and smaller, use PSX gasket system by Press-Seal Gasket Corporation, or approved equal.
c. For pipe 27-inch and larger, use resilient gasket by A-LOK Products, Inc., or approved equal.

2.5 FIRE HYDRANTS

A. General:
1. Comply with AWWA C502.
2. Paint fire hydrants in colors selected by the Owner.
a. Public water: red.
b. Raw water: green.
c. Private systems: yellow.
3. Match the fire hydrants generally installed in the Owner's water system.
4. Acceptable manufacturers:
a. Clow Medallion.
b. EJ 5BR 250.
c. Mueller Centurion A423.

B. Materials:
1. Provide compression type with a 5¼-inch minimum size main valve assembly, O-ring seals, two 2½-inch hose nozzles, and a 4½-inch pumper nozzle with National Standard threads, a National Standard operating nut, and an above ground break flange.
2. Provide a 6-inch auxiliary resilient seat type gate valve with restrained type joints or bituminous coated metal tie rods between the valves and the tee fittings.
a. Provide and install nuts, bolts, and tie rods matching the nuts and bolts used for fittings.

3. Provide valve boxes with cover marked with the word “WATER”.
   a. Stainless steel valve extension stems and 2-inch square operating nuts 2 inches below cover.
4. Provide valve box stabilizers on all fire hydrant auxiliary valves.
   a. Acceptable manufacturers:
      (1) Alberico.
      (2) American Flow Control.
      (3) Adaptor, Inc.
      (4) Or approved equal.
5. Provide 12 lb zinc anodes, conforming to ASTM B418-73 Type II with 12-AWG wire.
6. Provide red color above ground access for tracer wire systems.
   a. Acceptable manufacturers:
      (1) Copperhead Industries Cobra Hydrant Flange Package Part #T1-FLPKG.
      (2) Or approved equal.

2.6 WATER SERVICES

A. General:
1. Provide service saddles, corporation stops, curb stops, service boxes, and water service tubing.
2. Comply with the most recent edition of AWWA C800 (or NSF/ANSI 372) for service lines and service line appurtenances.

B. Materials:
1. Service lines: Type K soft temper seamless copper water tubing complying with ASTM B88.
2. Service saddles:
   a. Provide service saddles on all water mains for services greater than 1-inch.
   b. Stainless steel saddle with O-ring and grade 30 rubber grid map; Cascade styles CSC2, CS22, or approved equal.
3. Corporation stops:
   a. A.Y. McDonald No. 74701BQ,
   b. Mueller B25008N,
   c. Ford FB1000-XX-NL,
   d. Or approved equal.
4. Curb stops:
   a. A.Y. McDonald No. 76104Q,
   b. Mueller B25155N,
   c. Ford B44-XXX-M-NL,
   d. Or approved equal.
5. Service boxes: Tyler 6500 with BBAF valve box stabilizer, or approved equal.

2.7 TAPPING SLEEVES AND VALVES

A. Tapping sleeves:
   1. Use two-piece bolted sleeve ductile iron or stainless steel type with mechanical joints.
   2. Provide joint accessories.
   3. Measure existing water main outside diameter to determine proper tapping sleeve size.
   4. Acceptable manufacturers:
      a. Clow F-5205,
      b. Smith-Blair 665.
      c. Cascade CST-EX.
      d. Or approved equal.

B. Tapping valves:
   1. Use fully ported gate valves complying with AWWA C500.
   2. Use mechanical joints type, McWane Ductile F-5093, or approved equal.

2.8 RESTRAINED FLANGE ADAPTOR

A. Provide a ductile iron flange adaptor dual ring system with bolt circles compatible with 125#/Class 150 bolt pattern.
   1. Provide adaptor with individual actuated gripping wedges that utilize torque limiting screws to insure proper initial set.
   2. Set screw “only” restraining adaptors are not acceptable.
   3. Provide system that allows joint deflection of up to 5º.
   4. Provide a fluoropolymer coating to the wedge and wedge assembly and powder coating to the restraint body.

B. Acceptable manufacturers:
   1. Series 2100 Megaflange by EBAA Iron, or approved equal.

2.9 PIPE TRACER WIRE

A. General:
   1. Provide 12-gauge wire to be used for electronic locating of PVC pipe.
   2. Provide locating system components designed for compatibility to ensure end-to-end conductivity for detecting underground utilities.
      a. Copperhead Complete Utility Locating System.
      b. Or approved equal.

B. Materials:
   1. Wire: Single Strand, single conductor, copper-clad steel, No. 12 AWG high strength, high carbon with min. 450 lb. break load, min. 30 mil. HDPE insulation thickness (1230B-HS) for direct bury installation; color coded blue per APWA Standards.
   2. Connectors: Single, three-way locking connectors (LSC1230C); Mainline to service connectors (3WB-01) and dielectric silicon sealant.

3. Connect tracer wire to inside of valve vault walls with ½-inch stainless steel cable clamps. Stainless steel cable clamps to be secured to valve vault walls with Tapcon ¼" X 1½" embedment stainless steel concrete screw anchors, or approved equal.
4. Provide 1.5 pound magnesium grounding anodes and 12-AWG wire.
5. Tracer wire termination point: Provide stainless steel band to install at connection point between PVC water main and existing iron water main in accordance with manufacturer recommendations.
6. Tracer wire hydrant access point on fire hydrants: Provide for a direct connection to the tracer wire by utility locate transmitter manufactured for the application location; color coded red.
   a. Copperhead Cobra Hydrant Package T1-FLPKG.
   b. Or approved equal.

2.10 PIPE MARKING TAPE

A. General:
1. Provide marking tape manufactured for use in underground locations to be installed in open cut trenches where PVC pipe is installed.
2. Provide tape labeled with message that indicates what type of pipe is below, such as "Caution – Buried Water Line Below".

B. Materials (Detectable):
1. Provide solid color, organic virgin polyethylene film with a 0.00035" solid aluminum foil core, with clear film reverse printed and laminated to aluminum foil.

a.	Thickness:	5.0 mil.	ASTM D2103
b.	Tensile strength:	15,000 psi	ASTM D882
c.	Elongation:	80%	ASTM D882-75B
d.	Adhesives:	AV1257/CA1001	
e.	Colors:	APWA code for sewer and water	
f.	Printability:	45 Dynes	ASTM D2578
g.	Width:	6.0 inches	

2. Acceptable product:
   a. Pro-Line Safety Products by Pro-Line Safety Product Company.
   b. Or approved equal.

PART 3 - EXECUTION

3.1 PIPE INSPECTION, HANDLING, STORAGE, AND INSTALLATION

A. General:
1. Install in accordance with pipe manufacturer's recommendations.

B. Ductile iron or PVC water mains and appurtenances:
1. Comply with AWWA C600.

2. Protect pipe and fittings installed in corrosive soils containing cinders or having a high organic content by loose wrapping or tubing with polyethylene sheet.
   a. Place polyethylene sheet or tube around the entire circumference of the pipe, tie or tape sheet securely to prevent displacement during backfilling.
   b. Comply with ANSI/AWWA A21.5-99/C105 regarding installation of polyethylene protection.
3. Install conductivity through joints by use of conductivity wedges or copper cable and taps.
   a. Use two (2) wedges per joint for pipes 12 inches or smaller, and four (4) wedges per joint for pipe sizes larger than 12 inches.
   b. Use number of copper cable connectors per joint as recommended by the pipe manufacturer.

3.2 DEPTH OF PIPE COVER

A. Install water mains and water service lines with a minimum depth of cover of five (5) feet below finished grade ground level unless otherwise indicated on the Drawings.

B. Where new water mains cross existing water mains, install new water main below existing main unless otherwise indicated on the Drawings.

3.3 CONNECTIONS TO EXISTING WATER MAINS

A. Make connections to existing water mains. Comply with ANSI/AWWAC651. Maintain positive pressure to the area of connection.

B. Use non-pressure connections except where pressure connections are shown on the Drawings, or required by the conditions encountered at the time of construction.

C. Make one connection at a time except as approved by the Engineer.

D. Do not operate the valves on the existing water mains. The employees of the Owner's Water Department will open and close the valves as required for the connections.

E. Coordinate shutdown of existing water mains with Owner’s Water Department and Engineer with a minimum of 48 hours’ notice prior to shutdown.

3.4 PIPE RESTRAINING SYSTEMS

A. General:
   1. Provide protection from movement of water main piping, plugs, caps, tees, valves, hydrants, and bends of 11¼ degrees or greater.

B. Restrained joint pipe, fittings and valves:
   1. Provide restrained joint pipe to a distance indicated on the Drawings, or if not shown on the Drawings, to a distance not less than two pipe lengths on each side of a fitting or valve to be restrained.

C. Concrete thrust blocks:
   1. When conditions prevent the use of restrained joints, use concrete thrust blocks of an approved type. The use of concrete thrust blocks in lieu of restrained joint pipe, fittings and valves requires written approval of the Engineer.
   2. Provide precast or cast-in-place concrete thrust blocking with a compressive strength of 3,000 psi in 28 days.
   3. Locate thrust blocking between solid ground and the fitting to be anchored.
   4. Unless otherwise shown or directed by the Engineer, place the base and thrust bearing sides of thrust blocking directly against undisturbed earth.
   5. Sides of thrust blocking not subject to thrust may be placed against forms.
   6. Place thrust blocking so the fitting joints will be accessible for repair.

3.5 SEWER CROSSING

A. General:
   1. Separate water mains and water service lines from sanitary sewer, storm sewers, combined sewers, house sewer service connections, and drains in accordance with the “Standard Specifications for Water and Sewer Construction in Illinois”.
   2. The Owner will supply a data set with the locations of all known sanitary service laterals prior to the start of construction.

B. Water mains:
   1. Wherever water mains cross storm sewers, sanitary sewers, or sewer service connections:
      a. Install the water main so that its invert is at least 18 inches above the top of the sewer.
      b. Maintain this vertical separation for that portion of the water main located within 10’ horizontally of any sewer or drain crossed.
      c. Center a length of water main pipe over the sewer to be crossed with joints equidistant from the sewer or drain.
   2. When it is impossible to obtain the minimum 18 inches vertical separation, or when it is necessary for the water main to pass under a sewer or drain:
      a. Construct the sewer or drain of pressure pipe, conforming to the specification for water main materials.
      b. Extend the sewer construction on each side of the crossing until the normal distance from the water main to the sewer or drain is at least ten feet.
      c. As an alternate, install either the water main or sewer inside a water main quality casing pipe for a distance of 10 feet measured perpendicular to the sewer on each side of the crossing.

3. Where a water main must cross under a sewer:
   a. Maintain a vertical separation of 18 inches between the invert of the sewer and the crown of the water main.
   b. Support the sewer or drain line to prevent settling and breaking the water main.

C. Water service lines:
   1. Comply with the requirements of water main separation.

D. Sewer manholes:
   1. Do not install water line through sewer manhole.

3.6 VALVE VAULTS

A. General:
   1. Install pipe through valve vault as shown on the Detail.
   2. Make vault watertight with use of flexible manhole connectors as per the Detail.

B. Steps:
   1. Provide each valve vault over 3 feet deep with individual wall-mounted steps as shown on the valve vault detail.
   2. Comply with the requirements of governmental agencies having jurisdiction.

C. Jointing:
   1. Use flexible watertight gaskets for each joint.
   2. Trim smooth and free from surplus gaskets.

D. Frames and covers: Unless otherwise shown on the Drawings or as directed by the Engineer, set frames and covers:
   1. In paved areas: So that the top of the solid cover will be flush with the finished pavement.
   2. In unpaved areas: To drain away from the valve vault.
   3. With flexible watertight gaskets.
   4. With grade rings not to exceed 8 inches.

3.7 FIRE HYDRANT INSTALLATION

A. Install fire hydrants plumb with the lowest hose connection at least 18 inches, but not more than 26 inches, above the finished grade ground level.

B. Set fire hydrant and auxiliary valve on precast concrete blocks to provide firm support for the bases.

C. Brace the fire hydrant base with solid concrete blocking between the base and undisturbed trench wall to counteract the reaction thrust of water pressure at the base.
   1. Provide mechanical joint anchoring fittings, or approved restrained joints.

D. Brace the fire hydrant barrels during backfilling.
   1. Do not block the drain hole in fire hydrant.

E. Place a minimum of 1/2 cubic yards of washed coarse stone at and around the base for proper drainage.
   1. Cover stone with plastic before backfilling.

F. Place and compact backfill materials in 6-inch layers around the fire hydrant and auxiliary gate valve.

G. Cover new fire hydrant with plastic bag until new system is in service.

3.8 WATER SERVICE CONNECTION

A. General:
   1. Make service connections at locations shown on the Drawings or determined by the Engineer at the time of construction.
   2. Notify the City's Public Utilities Department immediately if existing lead water services are discovered.
   3. Install water service pipe, corporation stop and curb stop as shown on the standard water service installation detail.
   4. Set curb stop on a precast concrete block.
   5. Do not splice the water service pipe.
   6. Sequence of installation: See TESTING AND INSPECTING section of these Specifications for outline of when, in the sequence of construction, the corporation stops, curb stops, and service boxes are to be installed, leakage tested, and disinfected.
      a. Water service installation work must begin within 5 days of satisfactory sample results and IEPA approval.

B. Service boxes:
   1. Install over the curb stop in a truly vertical position.
   2. Set the top of the box flush with the finished grade ground level.

C. Direct tapping of polyethylene-encased D.I.P.:
   1. Wrap two or three layers of polyethylene adhesive tape completely around the pipe to cover the tapping machine and chain mounting area.
   2. Make the tap and install the corporation stop directly through the tap and polyethylene.
   3. After making the direct service connection, inspect the entire circumferential area for damage and make any necessary repairs.
   4. Wrap the corporation stop and a minimum distance of 3 feet of the copper service pipe with polyethylene.

3.9 PVC WATER MAIN TRACER WIRE

A. Install tracer wire system per manufacturer's instructions.

B. Place tracer wire taped to pipe at maximum intervals of 5 feet at 3 o'clock or 9 o' clock positions on the north or east side of the pipe.

C. Extend wire to top of valve boxes and other structures. Install tracer wire as a single continuous wire, except where using approved connectors.

D. Mount tracer wire to valve box with connector and insert into valve box through 5/8" diameter hole drilled into valve box. Leave 36-inches of slack to facilitate connections.

E. Install tracer wire access points behind each fire hydrant. Leave 24-inches of slack to facilitate connections.

F. Extend tracer wire to top of valve vault cone sections and mount tracer wire to vault walls with stainless steel cable clamps. Leave 36-inches of slack to facilitate connections. Extend wire up to top of marker posts, if marker posts are included with project.

G. Tracer wire installed along PVC water main to terminate with a mechanical connection of the tracer wire to the connecting iron water main with a stainless steel grounding band in accordance with manufacturer recommendations. Install tracer wire to allow proper access for connection of tracing equipment, without loss or deterioration of low frequency (512 Hz) signal, and without distortion of signal caused by more than one wire installed in close proximity.

H. Interconnect tracer wires at intersections. At tees, join the three wires using single, three-way locking connectors. At crosses, join the four wires using two three-way locking connectors with a short jumper wire between them.

I. Install grounding anodes at each end of pipeline and at a maximum spacing of 1,000 feet.

J. Successfully test tracer wire system installation after final restoration by locating the full length of facility using a low frequency (512 Hz) line tracing equipment in the presence of Owner and Engineer.

3.10 PIPE MARKING TAPE

A. General:
   1. Install marking tape in trench directly above pipe to be marked.
   2. Protect tape during backfill procedures.
   3. Continue tape through vaults or structures.

B. Depth:
   1. Install tape 18 inches below finished grade unless different depths are noted on the drawings or in other sections of these Specifications.

3.11 PRESSURE CONNECTION

A. Support the exposed existing water main on concrete pedestals at sufficient intervals to properly carry its own weight, plus the weight of the tapping machinery and fitting.
   1. Provide a concrete thrust block behind tapping sleeve.

B. Minimum tap hole diameter:
   1. For pipe 12-inch or smaller: 1/2-inch less than the nominal pipe diameter.
   2. For pipe 14-inch through 20-inch: 1½-inch less than the pipe diameter.

C. Open valve to flush any foreign material after completion of the pressure tapping.

3.12 POLYETHYLENE WRAPPING OF DUCTILE IRON PIPE AND APPURTENANCES

A. Comply with requirements of ANSI/AWWA A21.5-99/C105.
   1. Place polyethylene sheet around the entire circumference of the pipe, tie or tape sheet securely to prevent displacement during backfilling.
   2. Wrap all water mains, fittings, valves, fire hydrant leaders, fire hydrants, and service lines.
      a. Wrap copper service lines to a point 3 feet from center of water main.
      b. Do not block fire hydrant weep hole.

3.13 TESTING AND INSPECTING

A. Sequence of installation:
   1. Install new water main but do not install corporation stops, service lines, curb stops, or service boxes; conduct pressure test, leakage test; and disinfection of new water main; flush main; after acceptance for use put main into service (while existing main continues to function): Install corporation stops, curb stops, and new service boxes; and connect new service box to existing service lines.

B. Hydrostatic tests:
   1. Where any section of a water line is provided with concrete thrust blocking for fittings, do not make hydrostatic tests until at least 5 days after installation of the concrete thrust blocking, unless otherwise directed by the Engineer.
   2. Devise a method for disposal of waste water from hydrostatic tests, and for disinfection, as approved in advance by the Engineer.

C. Pressure tests:
1. Subject the new water mains and service lines, including valves and hydrants, to a hydrostatic pressure of 150 psi, meeting AWWA C600 requirements.
2. Test pressure shall not vary by more than ±5 psi for the duration of the test.
3. Carefully examine exposed pipe, joints, fittings, and valves.
4. Replace or remake joints showing visible leakage.
5. Remove cracked pipe, defective pipe, and cracked or defective joints, fittings, and valves. Replace with sound material and repeat the test until results are satisfactory.
6. Make repair and replacement without additional cost to the Owner.
7. Use only solid stainless full-body repair clamps as approved by the Engineer.

D. Leakage test:
1. Conduct a metered leakage test after the pressure test has been satisfactorily completed.
2. Duration of each leakage test: Two (2) hours.
3. Subject the new water mains, including valves and hydrants, to a hydrostatic pressure of 150 psi.
4. Test pressure shall not vary by more than ±5 psi for the duration of the test.
5. Install water meter approved by the Engineer.
   a. Provide double check valve assembly between water meter and existing water main.
6. Maximum allowable leakage: As recorded by a meter approved by the Engineer, with leakage to not exceed the number of gallons per hour (gph) as determined by the following formula:

   $$gph = LD(P^{1/2})/133{,}200$$

   in which: L = Length of pipe test, in feet
   D = Diameter of water main, in inches
   P = Average pressure, in pounds per square inch (gage)
7. Should any test of pipe disclose leakage greater than the maximum allowable amount, locate and repair the defective joint or joints and then repeat the 24-hour metered leakage test until the leakage is within the specified allowance, and at no additional cost to the Owner.

E. Time for making test:
1. Except for joint material setting, or where concrete reaction backing necessitates a 5 day delay, pipelines jointed with rubber gaskets, mechanical, or push-on joints, or couplings may be subjected to hydrostatic pressure, inspected, and tested for leakage at any time after partial completion of backfill.
2. Perform the pressure and leakage tests satisfactorily prior to requesting the Engineer to witness the official tests.
3. Notify the Engineer at least 48 hours prior to the time of the requested official tests.

4. Depending on traffic conditions, public hazard, or other reasons, the Engineer may direct when to conduct the tests, and may order the tests to be made in relatively short sections of water mains.

3.14 PRELIMINARY FLUSHING

A. Prior to disinfection, flush water main as thoroughly as possible.
   1. Flush water main until water runs clear.
   2. Provide a minimum flushing velocity of 2.5 feet per second in the water main.
   3. Where no fire hydrant exists on the end of a water main, the plug (or cap) on the end of the water main must be tapped with opening in the end for flushing purposes. After acceptance install threaded plug into tap.
      a. 8”, 10” and 12” mains: 2½-inch tap.
      b. 16” mains: 3-inch tap.
      c. Larger than 16” use temporary fire hydrants.
   4. Contractor has the option to use temporary fire hydrants in lieu of taps. Temporary fire hydrants must be removed after testing is complete.

B. Coordinate time of flushing with Owner and Engineer, at least 72 hours in advance of flushing.
   1. Do not initiate flush without Owner’s permission.

3.15 DISINFECTION

A. General:
   1. After the water main work has been satisfactorily completed and tested, disinfect the work in accordance with AWWA C651, and "Standard Specifications for Water and Sewer Construction in Illinois" as modified by these Specifications.

B. Application of chlorine:
   1. Apply chlorine by gas feed or solution feed chlorinator as approved by the Owner.
      a. Provide effective diffusion of the gas or solution into the water.
      b. Provide means for preventing the backflow of water into the feeder.
   2. Chlorine solution:
      a. Apply solution of sodium hypochlorite into one end of the section of main to be disinfected while filling the main with water.

C. Requirement of chlorine:
   1. Initial chlorine solution in pipe: At least 50 mg/L, but not more than 100 mg/L.
   2. Retain the disinfecting solutions in the work for at least 24 hours.
   3. Chlorine residual after the retention period: At least 25 mg/L.

D. Flushing and testing:
   1. Following chlorination, flush treated water thoroughly from the water mains until the chlorine concentration in the water flowing from the main is no higher than generally prevailing in the Owner's system, or less than 1 mg/L.

E. After flushing, the Owner will collect two samples on successive days at least 24 hours apart in sterile bottles treated with sodium thiosulfate. Notify the Engineer and Owner when leakage testing is complete and schedule the time for sample collection with the Owner. Provide materials and support to the Owner in collection of samples.
   1. The Owner will perform bacteriological analysis.
   2. Should the initial disinfection result in an unsatisfactory bacterial test, repeat the chlorination and sampling procedures until satisfactory results are obtained.

F. Swabbing:
   1. Flush and swab the piping, valves, and fittings that must be placed in service immediately and cannot be disinfected by the above specified methods, with 5 percent solution of calcium hypochlorite prior to assembly.
      a. Secure the Engineer's approval before applying this method of disinfection.

3.16 DECHLORINATION

A. Comply with AWWA C651-05 requirements to neutralize the residual chlorine in new water mains.

B. After new water mains have passed disinfection requirements, utilize portable diffusing dechlorinators that utilize sulfur dioxide or other chemicals listed in Appendix C of AWWA C651 to lower chlorine residuals prior to discharge to the drainage system.
   1. Lower concentration to 1 mg/L or less.

3.17 ABANDONMENT OF EXISTING WATER MAINS AND APPURTENANCES

A. Abandon water mains indicated on the Drawings as “to be abandoned” only after all requirements for testing and disinfection have been satisfied and all existing services have been connected to new water mains.

B. Provide concrete plugs in all water main pipes to be abandoned at the limits of the trench excavations, or at other locations if so indicated by the Drawings.

C. Provide ductile iron plugs, caps, or other necessary fittings, and thrust blocking, on ends of portions of existing water mains that are to remain in service. Tees should be removed and replaced with the appropriate diameter of water main, or tees shall have ductile iron plugs installed, as directed by the Engineer. Length of dead end mains shall be no greater than two times the outside diameter of the main.

D. Close existing water valves only with the permission of the Engineer.

E. Leave valve in place, but remove valve box to top of existing valve, and fill excavation with compacted granular material.

F. Leave valve in place, remove frame and lid and top section of valve vault, and backfill excavation with compacted granular material.

G. Remove fire hydrants in total, including auxiliary box, and backfill excavation with compacted granular material.

H. Deliver valves, valve boxes, fire hydrants, and frames and lids to the Owner at 921 Washington Street, Joliet, Illinois.

I. Where abandonment of existing water mains or appurtenances require work outside of the work zone, restore area of work as indicated on the Drawings or Section 32 92 00 of the Specifications.

J. Removal of existing water mains that are being replaced by new water mains in the same location is considered incidental to the installation of the new water main and no additional compensation will be allowed.

END OF SECTION

APPENDIX A

WIFIA BORROWER GUIDE TO FEDERAL REQUIREMENTS

BAXTER & WOODMAN
Consulting Engineers

APPENDIX: WIFIA SPECIFICATION PACKAGE AND BID CONTRACT LANGUAGE

Last Updated: November 2022

The is a reference document that provides all necessary contract language for WIFIA funded projects. Please note that some of the contract language in this package is required and must be included verbatim and some is suggested. For *Suggested Contract Language*, you may use your own language so long as it still ensures that provisions are included to guarantee compliance with the federal requirements.

EPA MAKES NO CLAIMS REGARDING THE LEGALITY OF THE FEDERAL LANGUAGE PROVISIONS WITH RESPECT TO STATE OR LOCAL LAW.

ECONOMIC AND MISCELLANEOUS AUTHORITIES

DEBARMENT AND SUSPENSION AND PROHIBITIONS RELATING TO VIOLATIONS OF CWA AND CAA WITH RESPECT TO FEDERAL CONTRACTS, GRANTS, OR LOANS

Suggested Contract Language:

Debarment and Suspension. Contractor certifies that it will not knowingly enter into a contract with anyone who is ineligible under the 2 CFR part 180 and part 1532 (per Executive Order 12549, 51 FR 6370, February 21, 1986) or who is prohibited under Section 306 of the Clean Air Act or Section 508 of the Clean Water Act to participate in the [Project]. Suspension and debarment information can be accessed at http://www.sam.gov. Contractor represents and warrants that it has or will include a term or conditions requiring compliance with this provision in all of its subcontracts under this Agreement.

NEW RESTRICTIONS ON LOBBYING

Suggested Contract Language:

Federal Lobbying Restrictions (31 U.S.C 1352). Recipients of federal financial assistance may not pay any person for influencing or attempting to influence any officer or employee of a federal agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress with respect to the award, continuation, renewal, amendment, or modification of a federal grant, loan, or contract. These requirements are implemented for USEPA in 40 CFR Part 34, which also describes types of activities, such as legislative liaison activities and professional and technical services, which are not subject to this prohibition. Upon award of this contract, Contractor shall complete and submit to the City the certification and disclosure forms in Appendix A and Appendix B to 40 CFR Part 34. Contractor shall also require all subcontractors and suppliers of any tier awarded a subcontract over $100,000 to similarly complete and submit the certification and disclosure forms pursuant to the process set forth in 40 CFR 34.110.

CIVIL RIGHTS, NONDISCRIMINATION, AND EQUAL EMPLOYMENT OPPORTUNITY AUTHORITIES

AGE DISCRIMINATION ACT, SECTION 504 OF THE REHABILITATION ACT, TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, AND SECTION 13 OF THE CLEAN WATER ACT

Suggested Contract Language:

CIVIL RIGHTS OBLIGATIONS. Contractor shall comply with the following federal non-discrimination requirements:

a. Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, and national origin, including limited English proficiency (LEP). (42 U.S.C 2000D, *et. seq)*

b. Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against persons with disabilities. (29 U.S.C. 794, supplemented by EO 11914, 41 FR 17871, April 29, 1976 and EO 11250, 30 FR 13003, October 13, 1965)

c. The Age Discrimination Act of 1975, which prohibits age discrimination. (42 U.S.C 6101 *et. seq)*

d. Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination on the basis of sex.

e. 40 CFR Part 7, as it relates to the foregoing.

EQUAL EMPLOYMENT OPPORTUNITY

Required *Contract Language. Note the requirements include three separate sections to include in contracts:* EEO, Standard Federal Equal Employment Opportunity Construction Contract Specifications*, and* Segregated Facilities. *This language must be included verbatim:*

Equal Employment Opportunity (EEO). The Contractor shall comply with Executive Order 11246, entitled 'Equal Employment Opportunity,' as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60). (EO 11246, 30 FR 12319, September 28, 1965)

Contractor's compliance with Executive order 11246 shall be based on implementation of the Equal Opportunity Clause, and specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4.

During the performance of this contract, the contractor agrees as follows:

1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

2) The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.
4) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
5) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
6) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
7) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
8) The contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor

as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States. [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966–1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230, EO 13665 of April 8, 2014, 79 FR 20749, EO 13672 of July 21, 2014, 79 FR 42971]

Standard Federal Equal Employment Opportunity Construction Contract Specifications. (41 CFR 60-4.3)

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 origin);
      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 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 either 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 7 a 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 in meeting 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 therefor, 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 compiled 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 or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests 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 work force.

k) Validate all tests and other selection requirements where 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 non-segregated 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, makes 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 an 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 Contractor 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 goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10) The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, 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 these 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 such 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 carried out, to submit reports relating to the 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 trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in 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 different standards of compliance or upon the application of 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).

Segregated Facilities. (41 CFR 60-1.8) The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term “facilities,” as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

Required *EEO language in bid solicitations only (or equivalent). Goals for minority participation must be filled in for the locality of work.*

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) located at 41 CFR § 60-4.2:

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment 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:

Timetables	Goals for minority participation for each trade	Goals for female participation in each trade
	Insert goals for each year[2]	6.9%[3]

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 non-federally involved construction.

The Contractor's compliance with the 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 specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. 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 or 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. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

[2] Goals can be found at: https://www.dol.gov/agencies/ofccp/construction

[3] Nationwide goal for all covered areas

PARTICIPATION BY DISADVANTAGED BUSINESS ENTERPRISES IN PROCUREMENT UNDER EPA FINANCIAL ASSISTANCE AGREEMENTS

Note: The WIFIA program only requires use of the EPA DBE program's six good faith efforts during contract procurement. States may require additional DBE reporting.

Suggested Contract Language:

Disadvantaged Business Enterprises (DBE). The contractor must ensure that the DBE's six good faith efforts are used during the procurement of subcontractors for the [Project]. The six good faith efforts are found at: https://www.epa.gov/grants/disadvantaged-business-enterprise-program-requirements#sixgoodfaithefforts.

AMERICAN IRON AND STEEL (AIS) REQUIREMENT

Suggested Contract Language:

The Contractor acknowledges to and for the benefit of **[Insert WIFIA Borrower Name]** ("Purchaser") and the United States Environmental Protection Agency ("EPA") that it understands the goods and services under this Agreement are being funded with monies made available by the Water Infrastructure Finance and Innovation Act program of the EPA that has statutory requirements commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contactor pursuant to this Agreement. The Contractor hereby represents, warrants and covenants to and for the benefit of the Purchaser and the EPA that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the EPA. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or the EPA to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or the EPA resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EPA or any damages owed to the EPA by the Purchaser). While the Contractor has no direct contractual privity with the EPA, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the EPA is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the EPA.

LABOR LAWS AND STANDARDS

Note that the language below addresses Davis Bacon and Related Acts and incorporates the WIFIA borrower as an authorized representative, in accordance with the WIFIA loan agreement, to ensure compliance with this federal requirement.

***Required** Contract Language.*

Compliance with Davis-Bacon and Related Acts.

(a) In any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a public building or public work, or building or work financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in 29 C.F.R. § 5.1, the following clauses (or any modifications thereof to meet the particular needs of the agency, provided that such modifications are first approved by the Department of Labor):

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its

subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)

(A) The WIFIA assistance recipient, [name of WIFIA borrower], on behalf of the U.S. Environmental Protection Agency (EPA), shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The WIFIA assistance recipient shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the WIFIA assistance recipient agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent to the Administrator of the Wage and Hour Division (WHD Administrator), U.S. Department of Labor, Washington, DC 20210. The WHD Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the WIFIA assistance recipient do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the WIFIA assistance recipient shall refer the questions, including the views of all interested parties and the recommendation of the WIFIA assistance recipient, to the WHD Administrator for determination. The WHD Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the WIFIA assistance recipient or will notify the WIFIA assistance recipient within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor

may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. [name of WIFIA borrower], shall upon written request of the WIFIA Director or an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the WIFIA Director may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii) {no text here}

(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to [name of WIFIA borrower] . The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at https://www.dol.gov/agencies/whd/forms/wh347 or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to [name of WIFIA borrower], for transmission to the EPA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to[name of WIFIA borrower]).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of [name of the borrower, EPA, or the Department of Labor, and shall permit such

representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA may, after written notice to the [name of WIFIA borrower], take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees –

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the WHD Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to

and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the WHD Administrator determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and [name of WIFIA borrower], EPA, the U.S.

Department of Labor, or the employees or their representatives. (10)Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(b) Contract Work Hours and Safety Standards Act. The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section shall be inserted in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by § 5.5(a) or § 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of $25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The [name of WIFIA borrower] shall upon its own action or upon written request of an authorized representative of the Department of Labor, or the EPA, withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors

to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in § 5.1, the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the EPA shall cause or require the [name of WIFIA borrower] to insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the [name of WIFIA borrower], EPA and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

LATEST UPDATES ON FEDERAL REQUIREMENTS

BUILD AMERICA, BUY AMERICA ACT

Other language may be included on contracts for clarity on this federal requirement if an applicable waiver applies. For example, if the WIFIA program has determined program waiver coverage, indicate in contract documents, "This Project is covered under the WIFIA Program Waiver (June 22, 2022), which waives BABA requirements."

Suggested Contract Language:

Build America, Buy America (Effective May 14, 2022)
The Contractor acknowledges to and for the benefit of . ("Purchaser") and the United States Environmental Protection Agency ("EPA") that it understands the goods and services under this Agreement are being funded with federal monies made available by the Water Infrastructure Finance and Innovation Act program of EPA that have statutory requirements commonly known as "Build America, Buy America;" that requires all of the iron and steel, manufactured products, and construction materials used in the project to be produced in the United States ("Build America, Buy America Requirements") including iron and steel, manufactured products, and construction materials provided by the Contactor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and Funding Authority (a) the Contractor has reviewed and understands the Build America, Buy America Requirements, (b) all of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the Build America, Buy America Requirements, unless a waiver of the requirements is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the Build America, Buy America Requirements, as may be requested by the Purchaser or the Funding Authority. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or Funding Authority to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or Funding Authority resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the Funding Authority or any damages owed to the Funding Authority by the Owner). If the Contractor has no direct contractual privity with the Funding Authority, as a lender or awardee to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the Funding Authority is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the Funding Authority.

PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT

Suggested Contract Language:

Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment (Effective August 13, 2020). The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115-232), at Section 889, prohibits EPA financial assistance recipients, including WIFIA borrowers, from expending loan funds to procure or obtain; extend or renew a contract to procure or obtain; or enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in the Act, "covered telecommunications equipment or services" means:

a) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
b) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
c) Telecommunications or video surveillance services provided by such entities or using such equipment.
d) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Act does not prohibit:

a) Procuring with an entity to provide a service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements.
b) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

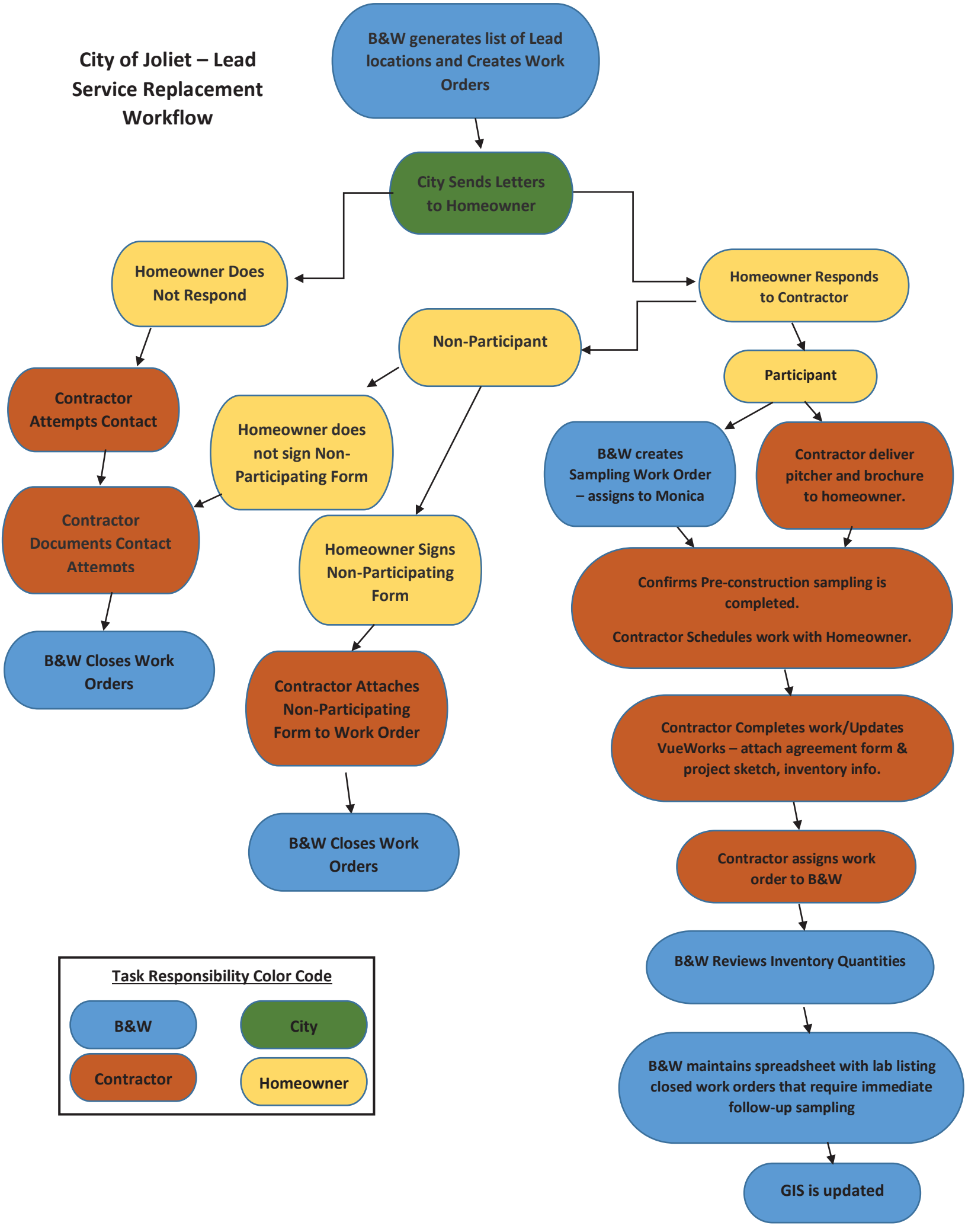
APPENDIX B

LEAD SERVICE LINE IMPROVEMENTS FORMS

BAXTER & WOODMAN Consulting Engineers

SECTION 1
PROJECT MANAGEMENT WORKFLOW

City of Joliet – Lead Service Replacement Workflow



Sampling Workflow



SECTION 2
LEAD SERVICE NOTIFICATION LETTER

DEPARTMENT OF PUBLIC UTILITIES
815-724-4230 Direct
815-723-7770 Fax

CITY OF JOLIET

150 WEST JEFFERSON STREET
JOLIET, ILLINOIS 60432-4158

Dear Property Owner:

The City of Joliet has discovered that the public portion of your water service that provides water into your home is made of lead. Lead, a metal found in natural deposits, is commonly used in household plumbing materials and water service lines. The greatest exposure to lead is swallowing or breathing in lead paint chips and dust. However, lead in drinking water can also cause a variety of adverse health effects. Lead is rarely found in source water, but enters tap water through corrosion of plumbing materials. Homes built before 1986 are more likely to have lead pipes, fixtures and solder. The City of Joliet adds polyphosphates to the drinking water supply to minimize corrosion of the pipes which reduces residents' risk of exposure to lead via drinking water.

Per the Environmental Protection Agency's Lead and Copper Rule (LCR), public water agencies must notify the property owner when a lead water service line is disturbed. The City must also collect representative water samples for each disturbed lead service line and report the samples to the property owner. In addition, the City offers a full water service replacement program at no cost to the property owner if the private portion of the service line is determined to be lead. If the private portion is not lead, the City will replace the public portion. Per the ordinances of the City of Joliet, the City owns the portion of the water service that extends from the water main to the exterior shut-off valve (b-box). The remaining portion of the lead water service extending from the b-box into the home is owned by the homeowner. Currently, the City will replace both the public portion and private portion of the lead water service with a new 1" copper water service at no cost to the homeowner. The estimated value of this work is $7,000 - $10,000. The City has retained an on-call contractor to complete this work.

Please contact the Department of Public Utilities at 815-724-4220 as soon as possible to schedule an appointment for a water service material inspection. Property owners who choose not to replace their lead water service line or conduct sampling will be required to sign off on documentation stating sampling and water service replacement was offered at no cost. If you have any questions regarding lead water service lines, water sampling, or the City's lead water service replacement program, please contact Bill Baltz, Field Operations Superintendent, at 815-724-4223 or wbaltz@jolietcity.org.

SECTION 3
PROJECT AGREEMENT FORM

OWNER(S): _____

PROPERTY ADDRESS: _____

PROPERTY PIN: _____

OWNER MAILING ADDRESS: _____

PHONE: _____

CITY OF JOLIET
LEAD WATER SERVICE LINE REPLACEMENT PROGRAM

This is an agreement between the City of Joliet (hereinafter "City"), and the owner(s) of the above listed property for the construction of certain improvements, described hereunder as the designated work, to the systems connecting owner's property and structures to the City water system.

1. Description of Work. The designated work (hereinafter the "work") to be performed on owner's property and structures is described as follows and as shown on the attached sketch:

   _____ Option 1: A new 1" copper water service will be routed through the foundation wall at new water service entry location. New copper water lines will be routed through the basement to connect existing plumbing. The water meter will be relocated to the entry point into the home of the new water service.

   _____ Option 2: A new 1" copper water service will be routed through the foundation wall or slab at approximately the same location as the existing water service. Existing plumbing will be reconnected.

   All materials and items installed will become the property of the homeowner and all future maintenance will become the homeowner's responsibility.

2. City to Choose Contractor; Contractors to be Licensed and Insured. The work shall be performed by a contractor chosen and employed by the City. The City shall use only contractors who are licensed and insured. The City shall require that all employees used by contractor to perform the work be insured.

3. City to Pay Costs of Work. The City shall pay all costs for the planning, excavation, construction, restoration, or any other attendant costs in contractor's performance of the work until such time as the work is completed, inspected, and accepted by the City.

4. Improvements Become Property of Owner Upon Acceptance of Work by City. Upon acceptance of the work by the City, the improved systems shall become the property of the owner who shall be solely responsible for any post-acceptance maintenance or repair of the systems.

5. No Liens to be Placed on Property. The City shall not itself, nor permit contractor, to enter or file any liens on the property of the owner in relation to the performance of or payment for the work.

6. Work Not Guaranteed Post-Acceptance. The City shall not guarantee nor warranty the work beyond the date of acceptance of the work by the City. **A one (1) year guarantee will be provided by the contractor from the Date of Installation.**

7. Authorizations, Scheduling, Duration, and Completion of the Work. To accomplish the performance of the work:

   (a) Owner expressly authorizes, permits and allows the contractor to perform the work on owner's property and structures.
   (b) Owner expressly authorizes, permits, and allows the contractor and its employees and/or employees, agents, inspectors, and representatives of the City to enter owner's premises and property to prepare, plan, conduct, and perform the work.
   (c) Owner expressly authorizes, permits, and allows the contractor and its employees and/or employees, agents, inspectors, and representatives of the City full access to owner's entire property including any residences or structures on the property, to prepare, plan, conduct, and perform the work.
   (d) The work shall commence on a date designated by the contractor upon notice to the owner.
   (e) The work, excluding restoration and landscaping, shall normally be completed within 5 working days. The contractor shall notify owner of any delays and/or extensions for completing the work along with the reason for delay and/or extension.
   (f) The work shall include any restoration and/or landscaping necessary to restore owner's property, premises, or structures as reasonably possible to their pre-work condition.

8. Owner to Keep Improvements in Place. Owner shall keep the performed improvements in place and may not alter, change, disconnect, or otherwise tamper with the improvements without the express, written consent and approval of the City of Joliet.

9. Contact for Questions, Concerns, Claims, or Disputes. All questions, concerns, claims or disputes regarding this agreement shall be directed to the City of Joliet Department of Public Utilities, 150 W. Jefferson Street, Joliet, Illinois 60432, 815/724-4220.

PLEASE SIGN BELOW & RETURN COMPLETE AGREEMENT (2 PAGES)

_____	_____
Owner Signature	City of Joliet
_____	_____
Owner Signature	Attest
_____	_____
Date	Date

Owner: _____
Print Name

Phone: _____

SECTION 4
WATER SERVICE
INSTALLATION SKETCH FORM

2021 LEAD WATER SERVICE REPLACEMENT PROGRAM

Address: _____ Date: _____

Owner Name: _____ Owner Phone #: _____

Owner Signature: _____

Contractor: _____

Lead Replacement: _____Public Only_____Private Only _____Private & Public

Water Service Connection: _____Basement_____Slab_____Crawl Space_____Other_____

Notes: _____

Meter Relocation: _____Yes _____No **New Water Meter Needed:** _____Yes _____No

Notes: _____

Restoration (insert dimensions): _____Brick Patio_____Concrete Patio_____Sidewalk

_____Asphalt Drive_____Concrete Drive_____Curb_____Turf

_____Asphalt Road_____Concrete Road_____Other

Notes: _____

_____

Fence Removal: _____Yes _____No

Notes: _____

Misc. Comments: _____

SECTION 5
NO PARTICIPATION FORM

Lead Service Line Replacement – No Participation Form

PWS ID Number: IL 1970450 Name: City of Joliet

I _____ (*print name*) hereby state that I have been informed by the water supply, City of Joliet, on this day _____, that my property located at _____, has a lead service line. I was informed of the hazards of lead in drinking water and given the option of having the City replace the part of the lead service line I own at the City of Joliet's expense. However, I have opted to not have this part of my lead service line replaced. I understand that the City will be replacing the public portion of the lead water line that services my property.

_____

Owner Signature

_____

Owner Name (Printed)

SECTION 6
LEAD SAMPLING REFUSAL FORM

Lead Sampling Refusal Form

PWS ID Number: IL 1970450 Name: City of Joliet

I _____ (*print name*) hereby state that I have been informed by the water supply, City of Joliet, on this day _____, that my property located at _____, has a lead service line. I was informed of the hazards of lead in drinking water and given the option to complete water sampling at the expense of the City of Joliet. However, I have declined to complete the sampling.

_____

Property Owner Signature

SECTION 7
WATER METER REPLACEMENT

City of Joliet - Meter Exchange Form

Completed by City of Joliet:

Reference No. _____ Date Completed in Munis _____

S/O Type _____ Completed by _____

S/O Reason _____

Account _____

Completed by Contractor: _____

Project Name _____

Location (address) _____

Scheduled Date _____ Scheduled Time _____

Old Meter Information		**New Meter Information**	
Serial No. (body)		**Meter Ser. No.**	
Reg/Cust. ID (TP)		Reg ID (TP No.)	
AMR ID No.		AMR ID No.	
Removal Date		**Install Date**	
Pull out Read		**Install Read**	CF
Size:		Size:	
Compound Meter			
High Read		AMR	
Low Read		ID STICKER	

Sensus Meter Tag

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

Residential Meter Types

5/8”x3/4”, 3/4” short, and 1”

RETHINKWATERJOLIET.ORG

- **SR or SRII** (stopped using by 2011)



- **Accustream w/ ICE Register** (discontinued)



- **Accustream w/ LCD Register** (no longer installing)



- **iPERL** (current standard)



- **Ally** (current standard for special applications)



RETHINKWATERJOLIET.ORG



Meter



Touchpad

Also known as:

- **Remote**



SmartPoint

Also known as:

- **AMR**
- **AMR radio**
- **510M SmartPoint**
- **FlexNet SmartPoint**
- **MTU**
- **MXU**
- **Radio**
- **Transceiver**
- **Remote**

Current Standard Sensus Meter Types

- **iPERL**
  - 3/4” SHORT
  - 1”



- **Ally**
  - 3/4” SHORT
  - 1” (future)



- **Omni C2**
  - 1-1/2”, 2”, 3”,
  - 4”, 6”, 8”, 10”



- **Omni F2**
  - 4”, 6”, 8”, 10”



RETHINKWATERJOLIET.ORG

Accustream Meter

w/ ICE Register

5/8”x3/4” and 1”

This was the standard City meter for a brief period when brass meters (SR / SRII) were being phased out around 2011.





Customer ID = Register ID

= “Meter Serial #” (for billing system)

(This is not the same as serial number on body of meter.

Body number = “Meter Serial # 2”

Number of boxes with containing “X” indicates number of digits of the register that are sent via AMR signal.

Standard is 8-digit since 2011.

Remove any 4-digit meters encountered.

APPENDIX C

GEOTECHNICAL INVESTIGATION REPORT

BAXTER & WOODMAN Consulting Engineers

K&S ENGINEERS, INC.

REPORT OF GEOTECHNICAL EXPLORATION

2025 WATER MAIN IMPROVEMENT PROJECTS
HEGGIE PARK
CITY OF JOLIET, ILLINOIS

Prepared For:

Mr. Ryan Y. Liang, P.E.
City of Joliet
150 West Jefferson Street
Joliet, IL 60342

September 6, 2024

K&S File No. 13940

K&S ENGINEERS, INC.
9715 Kennedy Avenue • Highland, Indiana 46322
(219) 924-5231 • (773) 734-5900 • FAX (219) 924-5271
www.kandsengineers.com • info@kandsengineers.com

September 6, 2024
K&S File No. 13940

City of Joliet
150 West Jefferson Street
Joliet, IL 60432

Attn: Mr. Ryan Y. Liang, P.E.

REPORT OF GEOTECHNICAL EXPLORATION

2025 WTER MAIN IMPROVEMENT PROJECTS
HEGGIE PARK
CITY OF JOLIET, ILLINOIS

Dear Mr. Liang:

Pursuant to your request, K & S Engineers, Inc. (K&S) is pleased to present the report of our geotechnical exploration performed for the above referenced project. The work for this project site was completed in general accordance with our Proposal No. 13954 dated January 26, 2024, which was subsequently authorized via a notice to proceed by email on February 9, 2024.

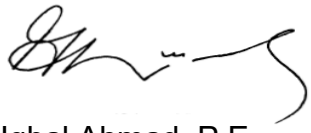
As part of the 2025 water main improvement projects, the purpose of this exploration was to evaluate the subsurface conditions to assist in design and installation of the proposed water main at the Heggie Park project site. The scope of work included subsurface exploration by drilling thirteen (13) soil borings, laboratory testing of representative soil samples collected at the site, engineering analysis of the pertinent geotechnical data, and preparation of this report. Samples obtained during this exploration will be retained in our facility for a period of 60 days, after which time they will be discarded unless other arrangements are made.

The approximate boring location plan (**Exhibit 1**) along with the soil boring logs (**HP1 to HP13**) are presented in the **Appendix** of this report. Relevant findings derived from this exploration are presented in the following text of the report.

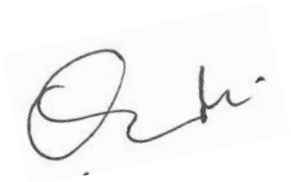
We appreciate the opportunity to work with you on this project. If you have any questions concerning this report, or if you require any additional services, please do not hesitate to contact us.

Very truly yours,

K & S Engineers, Inc.



Iqbal Ahmad, P.E.
Senior Geotechnical Engineer



Dibakar Sundi, P.E.
Senior Engineer

REPORT OF GEOTECHNICAL EXPLORATION

2025 WATER MAIN IMPROVEMENT PROJECTS
HEGGIE PARK
CITY OF JOLIET, ILLINOIS

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PROJECT DESCRIPTION

The City of Joliet (City) has planned improvements to the City's water distribution system at various project sites. As part of this plan, a drilling program was performed to characterize the subsurface conditions at various project sites for design purposes and to identify the anticipated subsurface conditions that may be encountered during construction. The actual length, size, and type of the water main system is not known to K&S at the time of this report. It is our understanding that the water main at the Heggie Park project site may be installed by open cut, jack and bore (bore), and horizontal directional drilling (HDD) methods for variety of soil conditions including landscape and roadways.

SITE DESCRIPTION

The proposed Heggie Park water main improvement project site is mainly located between Woodruff Road on the north side and Ward Avenue on the south side, and between Collins Street on the west side and Charlesworth Avenue on the east side, in Will County, Joliet, Illinois.

SUBSURFACE EXPLORATION

To investigate the subsurface conditions for the proposed Heggie Park project site, a total of thirteen (13) soil borings, HP1 to HP13, proposed by City were drilled. The borings were staked in the field by K&S using the maps provided by City. Prior to beginning the subsurface exploration, public utility companies were contacted to locate and mark any existing public utilities in the exploration area. The approximate locations of the as drilled borings are shown on ***Exhibit 1, Boring Location Map*** attached in the ***Appendix*** of this report.

The borings were drilled by truck-mounted (D120) rotary type drill rig. The borings were advanced through soils (overburden) using continuous hollow-stem augers. Representative soil samples were obtained using the split-barrel sampling procedure in general conformance with ASTM Standard D1586. Standard Penetration Test resistances (SPT N-values) and split-spoon samples were obtained at 2½-foot intervals up to a depth of 10 feet below the existing grade and thereafter split-spoon samples and SPT N-values were obtained at 5-foot intervals. The SPT N-values are plotted on the soil boring logs.

Groundwater level observations were made during drilling and shortly after completion of the drilling and sampling operations. The groundwater level observations are reported on the **Soil Boring Logs** included in the **Appendix**.

Out of 13 borings, HP1 to HP13, drilled for the Heggie Park project, one boring HP5 was drilled through the overburden up to the planned depth of 10 feet, two borings HP11 and HP12 were drilled through the overburden up to the planned depth of 20 feet, and one boring HP13 was drilled through the overburden to a depth of 9.5 feet where it was terminated due to auger refusal at the cobble/boulder and/or suspected bedrock. Below the auger refusal depths ranging from 3.5 to 8.5 feet in the remaining nine borings, HP1 to HP4 and HP6 to HP10, a 5 feet of core drilling was performed using an NX core barrel and bit to depths ranging from 8.5 to 13.5 feet. The recovery and rock quality designation (RQD) for each core run was determined and recorded.

LABORATORY TESTING

The soil and rock core samples obtained from each boring were logged, labeled, sealed, and transported to our laboratory for further classification and testing. Soil samples were visually classified by a K&S geotechnical engineer in accordance with the Unified Soil Classification System (ASTM D2487 and D2488) and the field boring logs reviewed as necessary. Natural moisture content and pocket penetrometer resistance (PPR) tests were performed on the cohesive soil samples. Also, the organic content determination test was performed by loss-on-ignition (LOI) method on a selected organic soil sample. Additionally, representative rock core samples were selected for compressive strength (Q_u) testing. The laboratory test results of moisture content, PPR values, Q_u values, and organic content are presented on **Soil Boring Logs**. Soil index property tests including grain-size distribution, and Atterberg limits were performed on representative soil samples. The laboratory test results of grain-size distribution and Atterberg limits are presented on **Gradation Curves**. Both the **Soil Boring Logs** and **Gradation Curves** are attached in the **Appendix**.

SUBSURFACE CONDITIONS

General

The soil profile described below is a generalized description of the subsurface conditions encountered at boring locations. The soil boring logs should be referred to for more

specific information. It should be noted that stratification lines on the soil boring logs represent approximate transitions between material types. In-situ stratum changes could occur gradually or at slightly different depths. Also, the soil boring logs depict conditions disclosed at the locations and times indicated. Some conditions, particularly groundwater levels, could change with time, as these are subject to seasonal and long-term variations in response to climatic conditions and man-made influences.

Overburden and Bedrock Conditions

Out of 13 borings, one boring HP5 was drilled up to the planned depth of 10 feet, two borings HP11 and HP12 were drilled up to the planned depth of 20 feet, and one boring HP13 was drilled to a depth of 9.5 feet where it was terminated due to auger refusal at the cobble/boulder and/or suspected bedrock. In the remaining nine borings, HP1 to HP4 and HP6 to HP10, bedrock was suspected at depths ranging from 3.5 to 8.5 feet which were cored to depths ranging from 8.5 to 13.5 feet. The ground surface elevations, estimated from Google Earth, at the drilled boring locations varies from approximately 551 to 560 feet, which are shown on the **Soil Boring Logs** attached in the **Appendix**.

Overburden

Nine (9) borings, HP1 to HP4 and HP6 to HP10, were drilled through the overburden soils prior to coring bedrock. One (1) boring, HP13, was drilled through the overburden soils up to auger refusal at the cobbles/boulder or suspected bedrock. The overburden depths in these 10 borings ranged from about 4.5 to 9.5 feet. No bedrock was encountered in boring HP5 which was drilled through the overburden soil up to the planned depth of 10 feet. Also, no bedrock was encountered in borings, HP11 and HP12, which were drilled through the overburden soils up to the planned depth of 20 feet. The overburden soils predominantly consisted of granular soils, except cohesive soils were encountered to a depth about 3.5 feet in boring HP1 and from depths of about 17.0 to 20.0 feet in boring HP11. These layers are described in more detail below.

- **Topsoil**
    - Six (6) borings, HP1 to HP5, and HP11, were drilled off the roadway/pavement where topsoil was encountered at the surface ranging from about 2 to 10 inches. The color was brown, black, and dark gray. The

topsoil was described as silty clay, silty sand, and organic silt, with traces of gravel and fine roots.

- **Pavement**
  - Seven (7) borings, HP6 to HP10, HP12, and HP13, were drilled through the existing pavement where asphalt pavement ranging from approximately 3 to 5 inches thick was encountered at the surface. Crushed stone aggregate base ranging from about 4 to 8 inches was encountered below the asphalt pavement at 5 boring locations, HP6, HP8, HP10, HP12 and HP13.
- **Granular Soils**
  - Granular soils were encountered below the topsoil and/or pavement/base course in all the borings to depths ranging from about 4.5 to 20.0 feet, except interbedded cohesive soil layers were encountered to a depth about 3.5 feet in boring HP1 and from depths of about 17.0 to 20.0 feet in boring HP12. The granular soils were brown, black-brown, and/or gray, in color and were classified as silty sand with gravel (SM), silty clayey sand (SC-SM), silty sand with organics (SM-OL), silty sand with gravel and cobble (SM), silty gravel with sand and cobble (GM), and cobble with interbedded silt and sand. The density of granular soils varied from loose to very dense as exhibited by SPT N-values ranging from 9 to greater than 50 blows per foot.
- **Cohesive Soils**
  - Cohesive soils were encountered below the topsoil to a depth of about 3.5 feet in boring HP1. Also, cohesive soils were encountered below the granular soils from depths of about 17.0 to 20.0 feet in boring HP12. The cohesive soils were classified as lean clay (CL) and silty clay with sand (CL-ML). The color was black-brown and gray with laboratory moisture content ranging from about 11.4 to 22.6 percent. The consistency ranged from medium stiff to hard as exhibited by pocket penetrometer resistance (PPR) values ranging from 0.5 to greater than 4.5tons per square foot (tsf).

Bedrock

The bedrock was suspected at depths ranging from 3.5 to 8.5 feet below the ground surface in 9 borings, HP1 to HP4 and HP6 to HP10. The bedrock in these borings was

cored to depths ranging from 8.5 to 13.5 feet below the ground surface. The bedrock was generally fresh to slightly weathered and very intensely to moderately fractured limestone/dolomite. The RQD values varied from 0% to 65%. Selected specimens of limestone/dolomite were tested for compressive strength determination. Based on these test results, compressive strengths varied from 649 tsf (9008 psi) to 1332 tsf (18506 psi). The compressive strengths are presented on the **Soil Boring Logs**, attached in the **Appendix**.

Groundwater Conditions

Groundwater level observations were made in the augers during and shortly following the drilling operations. Groundwater was observed during drilling and/or prior to rock coring in 6 borings, HP2, HP4, HP5, HP9, HP11, HP12, at depths ranging from about 6.5 to 11.0 feet. In the remaining 7 borings, HP1, HP3, HP6, HP7, HP8, HP10, and HP13, groundwater was not observed during drilling. Since water was used and/or added for rock coring in 9 borings HP1, HP2, HP3, HP4, HP6, HP7, HP8, HP9, and HP10, no groundwater levels were taken after completion of drilling in these borings. Groundwater was observed following completion of the drilling activities in 3 borings, HP5, HP11, and HP12, at depths ranging from about 9.5 to 13.0 feet. No groundwater was observed following completion of the drilling activities in boring HP13. The 4 overburden borings, HP5, HP11, HP12, and HP13, were caved-in after augers retrievals at depths varying from approximately from 7.0 to 15.0 feet.

It should be noted that “no groundwater” does not necessarily mean that groundwater, particularly perched water, does not exist at these locations.

In clay soils, relatively long periods of time are usually required for the groundwater level to attain an equilibrium position in the borehole. The indicated groundwater levels may not be representative of present or future levels. It should be noted that the groundwater levels are subject to seasonal and long-term variations in response to climatic conditions and man-made influences. Therefore, longer term monitoring may yield different results.

DESIGN AND CONSTRUCTION RECOMMENDATIONS

The proposed water main at the Heggie Park project site may be installed by open cut, bore, and/or HDD methods. The pipe invert of the proposed water main is not known to

K&S at the time of this report. The pipe invert should be placed at least 4.0 feet or deeper below the existing ground surfaces or final grades for frost protection. Based on results of the subsurface investigation and if no major grading is proposed, generally very loose to very dense granular soils, granular soils with organics, cobble/boulders, and bedrock consisting of fresh to slightly weathered and very intensely to moderately fractured limestone/dolomite are anticipated at a depth of about 4.0 feet or deeper below the existing ground surfaces.

Site Preparation for Trench Excavation

Prior to commencing excavation activities, the site should be initially prepared by stripping and removing the surficial vegetation, topsoil, existing pavement components and any other unsuitable materials, as necessary, within a 5-feet lateral margin, where feasible, beyond the construction limits.

Following the initial stripping/removal activities, excavation for the proposed water main may then commence. The excavation should proceed downward until the proposed subgrade level or required depth of removal and replacement is reached. The walls of the excavation should be sloped and/or shielded/shored in accordance with current Occupational Safety and Health Administration Standards (OSHA) regulations, as discussed under the ***Excavation Slope Stability*** section of this report. In addition to complying with OSHA safety standards, the design of the excavation support system should account for surcharge loading and protection of adjacent structures, utilities, roads, etc.

Based on results of the subsurface exploration we do not anticipate any major depths of removal and replacement for any soft or yielding areas except in boring HP5 where granular soils with organics were encountered from about 3.0 to 7.0 feet with moisture content up to about 90 percent and organic content up to about 18.9 percent. These organic soils should be removed and replaced with compacted load-bearing fill. However, actual depths of removal and replacement for any soft or yielding areas should be determined during construction and prior to placement of the water main by an experienced geotechnical engineer or his representative.

Minor to moderate groundwater is anticipated to seep through the granular layers into the excavations. It is recommended that appropriate dewatering method should be employed to lower and maintain the groundwater level at least 2 feet below the bottom of the planned excavations and surfaces requiring compaction to maintain stability of the excavation bottom and to facilitate proper compaction of the excavation bottom and backfill.

We recommend that the upper 8 inches of loose granular soils exposed at the base of trench excavation above the groundwater level be compacted, if possible, using vibratory compaction equipment to achieve a minimum of 95 percent of the standard Proctor dry density (ASTM D698). Any loose, soft, or unsuitable areas of the subgrade delineated during the compaction process that do not readily compact in-place, or that are judged by the engineer to pump or deflect excessively, should be undercut, and backfilled in thin lifts and recompacted. If necessary, the soft yielding soils should be undercut and replaced with well-compacted bedding aggregate.

Where clayey soils are exposed at the base of the trench excavation, these soils should be undercut by at least 4 inches and replaced with a layer of well-compacted granular bedding material to provide more uniform support and contact pressure beneath the pipe/structure.

Prior to installing the aggregate bedding material, the exposed soils at the base of trench excavation should first be checked by the Geotechnical Engineer or his authorized representative to determine that the soils are of adequate bearing strength. Some undercutting of weak soils and replacement with granular structural fill or coarse stone should be expected. The excavations should be kept relatively “dry” and well-drained at all times. This may require dewatering to remove seepage water and precipitation, as discussed under the ***Groundwater Considerations*** section of this report.

Trench Bedding and Backfill

Based upon the subsurface investigation, it was concluded that water main can be supported at a depth of about 4.0 feet or greater below the existing grades.

It is recommended that the water main should be placed on a minimum of 4 inches of compacted bedding material after undercutting the soft, loose, and yielding subgrade, if

any determined by the geotechnical engineer in the field at the time of construction. The undercut depth should be backfilled in lifts with the bedding material and compacted.

The material for bedding and haunching (top of bedding to centerline of pipe) should meet the requirements of the *IDOT's "Standard Specifications for Road and Bridge Construction"* for gradations: CA-6, CA-7, CA-9, CA-10, CA-18, FA-1, FA-2, FA-3, FA-5, FA-6, FA-10, or FA-21. The material should be adequately compacted to a minimum density specified in the *IDOT Specifications*.

The material for initial backfilling from centerline of the pipe to 12 inches above the top of pipe should be suitable material excavated from the trench or selected material meeting the requirements above for haunching material. Selected granular backfill material should be used for flexible pipes at all location. Selected granular material should also be used for rigid pipes where the inner edge of the trench is within 2 feet of the existing or proposed edge of pavement, curb, gutter, curb and gutter, stabilized shoulder, or sidewalk. In areas where selected granular material is not required, suitable material excavated from the trench may be used. Initial backfill should be placed in uniform layers not exceeding 6 inches loose thickness.

After completion of the initial backfilling, final backfill in remainder of the trench should be placed to the proposed finished grades using suitable excavated material and/or selected granular material.

The final backfill for trenches made within the existing or proposed pavements, or for trenches made outside of the existing or proposed pavement where the inner edges of the trench is within 2 feet of the edge of pavement, curb, gutter, curb and gutter, stabilized shoulder or sidewalk, should be selected granular trench backfill material such as IDOT gradation CA-6, CA-9, CA-10, CA-18, FA-1, FA-2, FA-5, FA-6, FA-10, or FA-21.

The foundation, bedding, haunching, initial backfill, and final backfill material should be compacted in accordance with the *IDOT Standard Specifications* for structural areas (e.g., beneath roadways or paved areas) and in non-structural areas (e.g., landscaped areas). The on-site suitable cohesive or granular soils, used as backfill, should be moisture conditioned to within ±3 percent of their optimum moisture content as determined by the

standard Proctor method, which may require aeration by discing. On-site and borrow granular backfill materials may also require removal of materials larger than 3 inches and some wetting or drying to achieve the proper moisture content range for compaction.

Excavation Slope Stability

Temporary open-cut excavation slopes, 5 feet or greater in depth, must conform to current OSHA regulations. For the proposed water main improvement, temporary construction excavations along the project alignment are expected to expose:

OSHA Type B soil which is cohesive and has unconfined compressive strength between 0.5 and 1.5 tsf. Type B soil includes angular gravel, silt, silt loam, and soils that are fissured, previously disturbed, near sources of vibration, or has water seeping through it but could otherwise be classified as Type A with high unconfined compressive strength of 1.5 tons per square foot (tsf) or greater.

OSHA Type C soil which is the least stable type of soil. Type C soil includes granular soils such as gravel and sand in which particles do not stick together and cohesive soils with a low unconfined compressive strength of 0.5 tsf or less. The soil with water seeping through it is also automatically classified as Type C soil, regardless of its other characteristics.

Per the OSHA standards, temporary open-cut excavations of less than 20 feet deep can likely be cut with side slopes no steeper than 1.0H:1.0V in the Type B soil, and 1.5H:1.0V in the Type C soil, provided minor sloughing is tolerable and the cut is above the water table. In accordance with OSHA standards, sloping or benching for excavations greater than 20 feet shall be designed by a registered Professional Engineer (PE). Note that OSHA provisions do not address protection of adjacent existing structures and utilities. This must be evaluated and designed by a registered PE.

If the above slope values cannot be maintained due to soft clayey soils or very loose sandy or silty soil conditions, then the excavation sides must be flattened, shielded or shored, as necessary, in accordance with current OSHA standards. We further recommend that excavated soil and construction equipment be kept at least 5 feet away

from the edge of the excavations. However, current OSHA standards, which may be more restrictive, must be met.

Groundwater Considerations

For the proposed depth of excavations, minor dewatering is anticipated at some locations in granular soils and in cohesive soils with granular lenses and layers which may have been encountered in the drilled borings. It is recommended that the groundwater level be lowered and maintained at least 2 feet below the bottom of the planned excavations and surfaces requiring compaction to maintain stability of the excavation bottom and to facilitate proper compaction of the excavation bottom and backfill.

At the time of our exploration, groundwater was observed in 6 borings, HP2, HP4, HP5, HP9, HP11, HP12, at depths ranging from about 6.5 to 13.0 feet. Deep excavations extending below the water levels could potentially result in a hydrostatic condition and instability at the base of the excavation. Therefore, if deep excavations are planned, we recommend that temporary monitoring wells/piezometers should be installed prior to beginning construction to better evaluate the groundwater level trends.

Short-term ponding of surface water could occur if construction takes place during a wet weather period. It is anticipated that ponded water and most seepage water can most likely be removed by standard sumps and filtered pumps. The ground surface adjacent to the excavations should also be graded so as to direct surface water runoff away from the excavation.

Trenchless Excavation

It should be noted that the focus of our geotechnical investigation for the proposed project site was to characterize the subsurface conditions in the vicinity of the proposed water main and assess potential constructability concerns for the selected method. Based on the soil conditions revealed by the subsurface exploration, the trenchless excavation including the bore and HDD methods appears to be feasible from a geotechnical standpoint. Mostly moist granular soils, cobbles, boulders, and fresh to slightly weathered, very intensely to moderately fractured limestone/dolomite bedrock are expected to be encountered in the pipe zone and within the jacking and receiving pits.

The bore and HDD methods are generally used as an alternative to open cut excavations. Construction methods are available to cope with various soil and rock formations in dry or water bearing conditions. Appropriate bore and HDD techniques should be employed that are suitable and capable of effectively drilling and steering through the overburden (non-cohesive and/or cohesive soils), including cobbles, boulders, various rock formations, and groundwater conditions encountered in the boreholes. Use of suitable lubricant such as slurry may be considered to reduce friction between the pipe and the ground. The landscape and subsurface conditions at this project will require a specialty drilling contractor, specialized and experienced in bore and/or HDD drilling, well-planned and equipped with full drilling system and right equipment and tooling

The higher SPT blow counts such as 50 blows for less than 6 inches penetration in granular layers indicate the possibility of cobbles and/or boulders present in the overburden deposits/layers. Consideration should be given to the ability of the machine to deal with cobbles, boulders, or any other obstructions through the overburden and various types of rock formations. Special care and attention should be given to the presence of fresh to slightly weathered, very intensely to moderately fractured limestone/dolomite bedrock near and below the anticipated pipeline profile.

Groundwater was observed in 6 borings, HP2, HP4, HP5, HP9, HP11, HP12, at depths ranging from about 6.5 to 13.0 feet. Minor to moderate groundwater should be anticipated through the granular soils in or near the pipe zone.

The bore and HDD operation must be performed and controlled using the best practices. The bore and HDD method and tools must be selected that minimizes any over-excavation between the pipe and surrounding bore to avoid settlement and/or movement of the materials above, around, and underneath the pipes, which may cause damage to the roadway and structures. Additionally, contact grouting should also be considered for filling any over-excavation between the pipe and the surrounding bore, and any voids encountered during this operation.

The bore and HDD operation should be supervised/monitored on a full-time basis by a competent person. The levels of ground surfaces, structures, etc. should be routinely monitored.

Geotechnical Design Parameters

The following design parameters are recommended for the soils encountered in the borings:

Table 1: Soil Parameters

Soil Type	Moist Unit Wt. (pcf)	Submerged Unit Wt. (pcf)	Undrained Shear Strength (psf)	Angle of Internal Friction (deg)	Coefficient of Active Earth Pressure		Coefficient of Passive Earth Pressure		Coefficient of At-Rest Earth Pressure	
					Undrained K_{au}	Drained K_{ad}	Undrained K_{pu}	Drained K_{pd}	Undrained K_{ou}	Drained K_{od}
Lean Clay, Silty Clay (Medium Stiff to Hard)	125	62.6	500 - 2000	0.0	1.0	0.33	1.0	3.0	1.0	0.5
Sand (Loose)	110	47.6	--	30	0.33		3.0		0.5	
Silty Sand (Very Loose to Loose)	105	42.6	--	25	0.41		2.46		0.58	
Sand, Silty Sand (Medium Dense)	125	62.6	--	33	0.29		3.45		0.46	
Sand, Silty Sand (Dense to Very Dense)	130	67.6	--	35	0.27		3.69		0.43	
Gravel, Silty Gravel (Medium Dense)	130	67.6	--	35	0.27		3.69		0.43	
Gravel, Silty Gravel (Dense to Very Dense)	135	72.6	--	38	0.24		4.2		0.38	

CONSTRUCTION MONITORING

It is recommended that full-time observation and monitoring be provided during construction including excavation and backfill placement by a geotechnical engineer or experienced soils technician who is familiar with the subsurface conditions and the design criteria. These services are especially critical given the need for proper compaction of the bearing soil at the base of the excavations and compaction of subsequent backfill lifts. It is our opinion that K&S or the subcontractor's approved geotechnical representative should be involved in the construction process. Observation services are considered as a continuation of the design process. These services should include the observation and documentation of all phases of construction, evaluation of bearing materials, placement and compaction of load-bearing fill, and installation of any foundation elements.

LIMITATIONS

The conclusions and recommendations presented in this report are based upon assumption that the subsurface conditions do not deviate appreciably from those disclosed by the soil borings and are also based upon the premise of competent field engineering, monitoring, and testing during construction.

The professional services provided in connection with this project were performed in a manner consistent with the level of care and skill ordinarily exercised by an engineering firm. The opinions and conclusions presented in this report are based upon visual observations, limited testing, and engineering judgment. No other representation, warranty, or guarantee is intended.

APPENDIX

Exhibit 1, Boring Location Plan

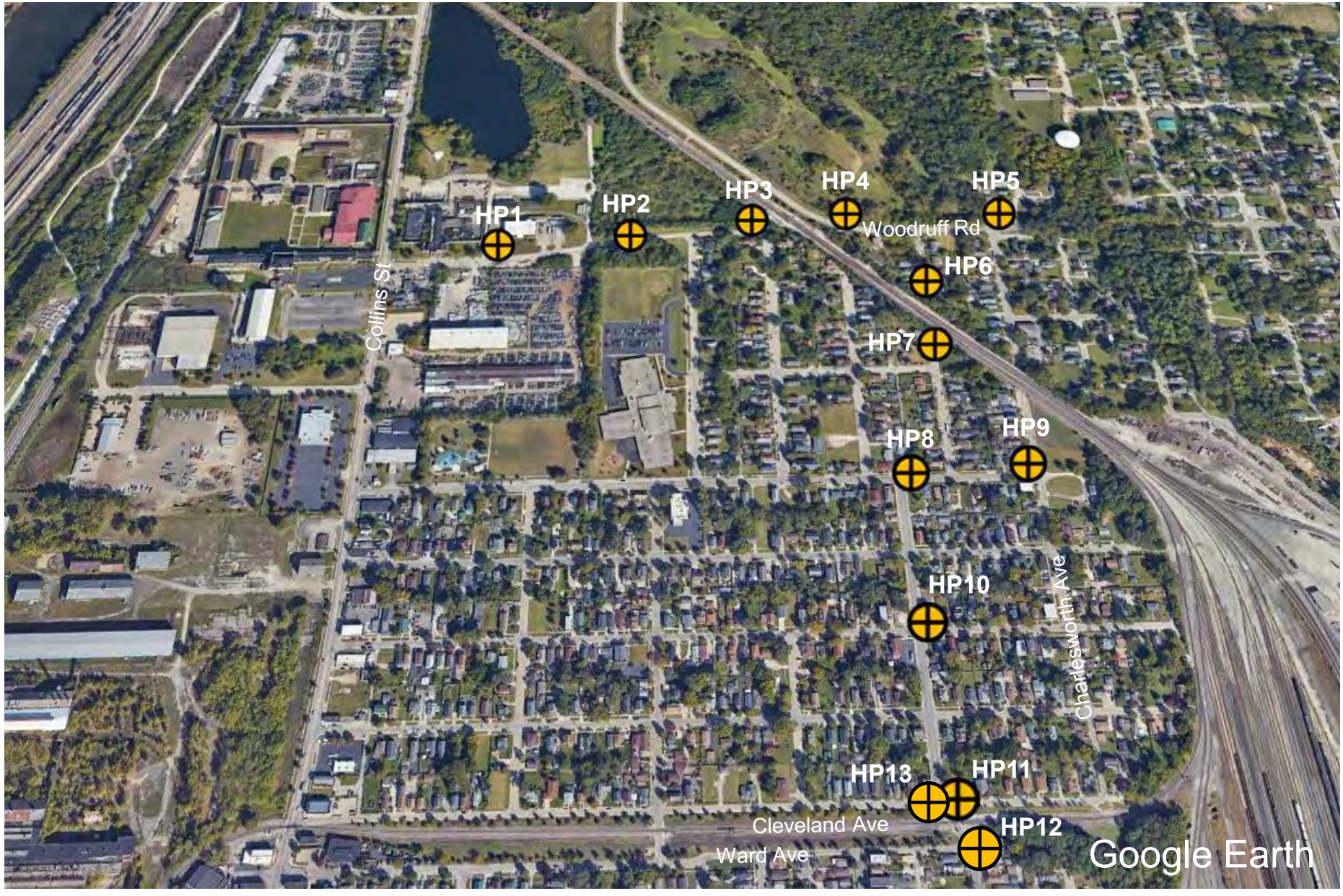
Unified Soil Classification System Chart

General Notes

Soil Boring Logs (HP1 to HP13)

Gradation Curves

General Qualifications



K & S ENGINEERS, INC.
SOIL TESTING AND FOUNDATION CONSULTANTS

BORING LOCATION PLAN
2025 WATER MAIN IMPROVEMENT PROJECTS–HEGGIE PARK
JOLIET, ILLINOIS

N
W E
S

Date: 9-4-2024
Scale: Not to Scale

EXHIBIT 1
File No. 13940

Legend: HP# ⊕ Approximate Boring Location

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

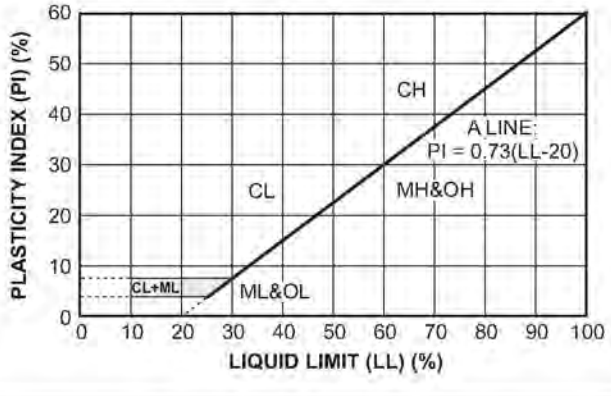
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{D_{30}}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for GW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent ..... GW, GP, SW, SP
More than 12 percent ..... GM, GC, SM, SC
5 to 12 percent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



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General Notes

IN ORDER TO PROVIDE UNIFORMITY THROUGHOUT OUR PROJECTS, THE FOLLOWING SYSTEM HAS BEEN ADOPTED TO DESCRIBE EACH SOIL SAMPLE. ROCK, SHALE, AND OTHER MATERIALS WILL BE DESCRIBED IN DETAIL AS ENCOUNTERED.

CONSISTENCY OF COHESIVE SOILS

UNCONFINED COMPRESSIVE STRENGTH, Q_U (tsf)	CONSISTENCY
<0.25	Very Soft
0.26-0.49	Soft
0.50-0.99	Medium Stiff
1.00-1.99	Stiff
2.00-3.99	Very Stiff
4.00-8.00	Hard
>8.00	Very Hard

RELATIVE DENSITY OF GRANULAR SOILS

"N" VALUE*	RELATIVE DENSITY
0-3	Very Loose
4-9	Loose
10-29	Medium Dense
30-49	Dense
50-80	Very Dense
>80	Extremely Dense

*Number of blows per foot required to drive a 2-inch O.D. split-spoon sampler using a 140-lb. weight falling freely for 30 inches, except where otherwise noted.

COLOR - AS DETERMINED ON THE FRESH, MOIST SAMPLES

PREDOMINATE COLORS		SHADES	MODIFYING ADJECTIVES
Black	Yellow	Light	Vari-colored
Brown	Red	Dark	Steaked
Gray	Blue		Mottled

GRADATION DESCRIPTION AND TERMINOLOGY

COMPONENTS	SIZE RANGE
Boulders	Over 8 inches
Cobbles	8 inches to 3 inches
Gravel	3 inches to #4 sieve (0.475 mm)
Sand	#4 sieve to #200 sieve (0.475 mm to 0.075 mm)
Silt	Passing #200 sieve to 0.005 mm (0.075 mm to 0.005 mm)
Clay	Smaller than 0.005 mm

ESTIMATED PROPORTIONS OF MATERIAL BY DRY WEIGHT IN PERCENT

DESCRIPTION OF COMPONENT ALSO PRESENT IN SAMPLE	PERCENT OF DRY WEIGHT
Trace	1-9
Little	10-19
Some	20-34
And	35-50

WATER LEVELS ARE THOSE OBSERVED WHEN BORINGS WERE MADE, OR AS NOTED. POROSITY OF THE SOIL STRATA, VARIATIONS OF RAINFALL, SITE TOPOGRAPHY, ETC., MAY CAUSE CHANGES IN THESE LEVELS.

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP1**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-15-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-15-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 558

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.2		TOPSOIL - black, SILTY CLAY, trace gravel and fine roots	0.0				
		Medium stiff, black-brown, LEAN CLAY, trace gravel (CL)		SS		1	0.0
			2.0				
3.5		COBBLE with silt and sand Run 1A = 3.5' to 5.0' (1.5') Recovery = 0% (0.0')	4.0	RC		2	
5.0		LIMESTONE / DOLOMITE : hard, light gray, slightly weathered, thin bedded, moderately fractured, fine grained Run 1B = 5.0' to 8.5' (3.5') Recovery = 100% (3.5') RQD = 35%	6.0	RC		3	0.0
			8.0				
8.5		**End of Boring at 8.5 Feet**					

△ SPT BLOW PER 6" (N VALUE)

0 10 20 30 40 50 60

2-3-3 (6)

649

● WATER CONTENT, %

0 1 2 3 4 5 6

0 10 20 30 40 50 60

▽ WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 3.5' to 8.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP2**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-15-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-15-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 555

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.2		TOPSOIL - brown, SILTY SAND, trace gravel and fine roots	0.0				
		Medium dense, gray, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
			4.0	SS		2	0.0
			6.0				
7.0		COBBLE with interbedded silt and sand		SS		3	0.0
8.5		LIMESTONE / DOLOMITE : hard, light gray, slightly weathered, thin bedded, intensely fractured, fine grained Run 1 = 8.5' to 13.5' (5.0') Recovery = 93% (4.7') RQD = 17%	8.0				
			10.0	RC		4	0.0
			12.0				
13.5		**End of Boring at 13.5 Feet**					

WATER CONTENT, %: 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

1-2-8 (10)

10-7-3 (10)

3-5-50/3" (55)

▽ WATER LEVEL WHILE DRILLING = 7.0 feet prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 8.5' to 13.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP3**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-15-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-15-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 555

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.2		TOPSOIL - brown, SILTY SAND, trace gravel and fine roots	0.0				
		Medium dense, gray, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
			4.0	SS		2	0.0
		- trace organics at 6.0 feet	6.0				
6.5		COBBLE with interbedded silt and sand		SS		3	0.0
7.5		LIMESTONE / DOLOMITE : hard, light gray, slightly weathered, thin bedded, intensely fractured, fine grained, few scattered vugs Run 1 = 7.5' to 12.5' (5.0') Recovery = 100% (5.0') RQD = 13%	8.0				
			10.0	RC		4	0.0
			12.0				
12.5		**End of Boring at 12.5 Feet**					

WATER CONTENT, %: 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

3-5-11 (16)

10-5-5 (10)

1-50/2" (50)

759

▽ WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 7.5' to 12.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP4**	COUNTY **13940**
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING EASTING
BORING STARTED **3-19-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2
BORING COMPLETED **3-19-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2

GROUND SURFACE ELEVATION 555

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
			0.0				
0.7		TOPSOIL - black, ORGANIC SILT with sand, trace gravel and fine roots					
		Medium dense, gray, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
			4.0	SS		2	0.0
			6.0				
6.5				SS		3	0.0
7.0		COBBLE with interbedded silt and sand					
		LIMESTONE / DOLOMITE : hard, light gray, fresh to slightly weathered, thin bedded, intensely fractured, fine grained, few scattered small vugs Run 1 = 7.0' to 12.0' (5.0') Recovery = 85% (4.25') RQD = 33%	8.0				
				RC		4	0.0
			10.0				
12.0		**End of Boring at 12.0 Feet**	12.0				

WATER CONTENT, % 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE) 0 10 20 30 40 50 60

5-8-10 (18)

6-9-11 (20)

4-50/3" (50)

▽ WATER LEVEL WHILE DRILLING = 6.5 feet prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 7.0' to 12.0'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP5**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-20-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-20-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 560

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.0		TOPSOIL - dark gray, SILTY CLAY, trace gravel and fine roots	0.0				
0.8		Medium dense, gray, moist, SILTY CLAYEY SAND, trace gravel (SC-SM)	2.0	SS		1	0.0
3.0		Medium dense, gray-black, moist, SILTY SAND with organics, trace gravel (SM-OL)	4.0	SS		2	0.0
5.5		Loose, gray-black, moist, SILTY SAND with organics, trace gravel (SM-OL) Organic Content by LOI = 18.9%	6.0	SS		3	0.0
7.0		Very dense, brown, moist, SILTY SAND with gravel and cobble (SM)	8.0				
9.0		Extremly dense, brown, moist to wet, SILTY SAND with gravel and cobble (SM)		SS		4	0.0
10.0		**End of Boring at 10.0 Feet**	10.0				

SAMPLE

WATER CONTENT, %: 0 1 2 3 4 5 6 | 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

1-2-8 (10)

10-7-3 (10)

3-5-50/3" (55)

89.5

85

8-35-50/2" (85)

▽ WATER LEVEL WHILE DRILLING = 9.9 feet

▼ WATER LEVEL AFTER DRILLING IN AUGERS = 9.5 feet

REMARKS
Cave-in depth after auger retrieval = 8.5 feet

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP6**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-19-24** RIG **D120**	FILE NUMBER **13940**		
BORING COMPLETED **3-19-24** FOREMAN **Ruben Perez**			

GROUND SURFACE ELEVATION 554

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.4		ASPHALT PAVEMENT (5.0 inches)	0.0				
0.8		CRUSHED STONE FILL (5.0 inches)					
		Loose, brown, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
3.0		Very dense, gray, moist, SILTY GRAVEL with sand and cobble (GM)	4.0	SS		2	0.0
5.5		Extremely dense, gray, moist, SILTY GRAVEL with sand and cobble (GM)	6.0	SS		3	
7.5		LIMESTONE / DOLOMITE : hard, light gray, fresh to slightly weathered, thin bedded, intensely to moderately fractured, fine grained Run 1 = 7.5' to 12.5' (5.0') Recovery = 98% (4.92') RQD = 65%	8.0				
			10.0	RC		4	0.0
			12.0				
12.5		**End of Boring at 12.0 Feet**					

CALIBRATED PENETROMETER,TONS/FT^2

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2

0 1 2 3 4 5 6

WATER CONTENT, %

0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE)

0 10 20 30 40 50 60

6-6-3 (9)

36-50/5" (50)

80

21-30-50/3" (80)

1046

WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 7.5' to 12.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP7**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-15-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-15-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 553

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (4.0 inches)	0.0				
		Medium dense, brown, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
3.0		Very dense, gray, moist, SILTY SAND with gravel (SM)	4.0	SS		2	0.0
5.0		LIMESTONE / DOLOMITE : hard, light gray, fresh to slightly weathered, thin bedded, intensely to moderately fractured, fine grained, few scattered vugs Run 1 = 5.0' to 10.0' (5.0') Recovery = 97% (4.83') RQD = 47%	6.0	RC		3	0.0
			8.0				
10.0		**End of Boring at 10.0 Feet**	10.0				

WATER CONTENT, %: 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

7-12-13 (25)

74

17-30-44 (74)

▽ WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 5.0' to 10.0'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP8**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-18-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-18-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 551

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (4.0 inches)	0.0				
		CRUSHED STONE FILL (8.0 inches)					
1.0		Medium dense, brown, moist, SILTY SAND with gravel (SM)		SS		1	0.0
			2.0				
3.0		Very dense, gray, moist, SILTY SAND with gravel (SM)					
			4.0	SS		2	0.0
5.0		LIMESTONE / DOLOMITE : hard, light gray, fresh to slightly weathered, thin bedded, intensely fractured, fine grained Run 1 = 5.0' to 10.0' (5.0') Recovery = 100% (5.0') RQD = 18%	6.0				
			8.0	RC		3	0.0
10.0		**End of Boring at 10.0 Feet**	10.0				

WATER CONTENT, %: 0 1 2 3 4 5 6 | 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

5-8-7 (15)

30-50/5" (50)

1332

▽ WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 5.0' to 10.0'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP9**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-18-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-18-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 552

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (4.0 inches)	0.0				
		Medium dense, brown, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
3.0		Loose, gray, moist, SILTY SAND with gravel (SM)	4.0	SS		2	0.0
6.0		COBBLE with interbedded silt and sand	6.0	SS		3	0.0
7.5		LIMESTONE / DOLOMITE : hard, light gray, fresh to slightly weathered, thin bedded, moderately fractured, fine grained, few scattered vugs Run 1 = 7.5' to 12.5' (5.0') Recovery = 100% (5.0') RQD = 55%	8.0				
			10.0	RC		4	0.0
			12.0				
12.5		**End of Boring at 12.5 Feet**					

△ SPT BLOW PER 6" (N VALUE)

0 10 20 30 40 50 60

10-10-6 (16)

3-4-5 (9)

50/5"

● WATER CONTENT, %

0 10 20 30 40 50 60

0 1 2 3 4 5 6

▽ WATER LEVEL WHILE DRILLING = 7.0 feet prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 7.5' to 12.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

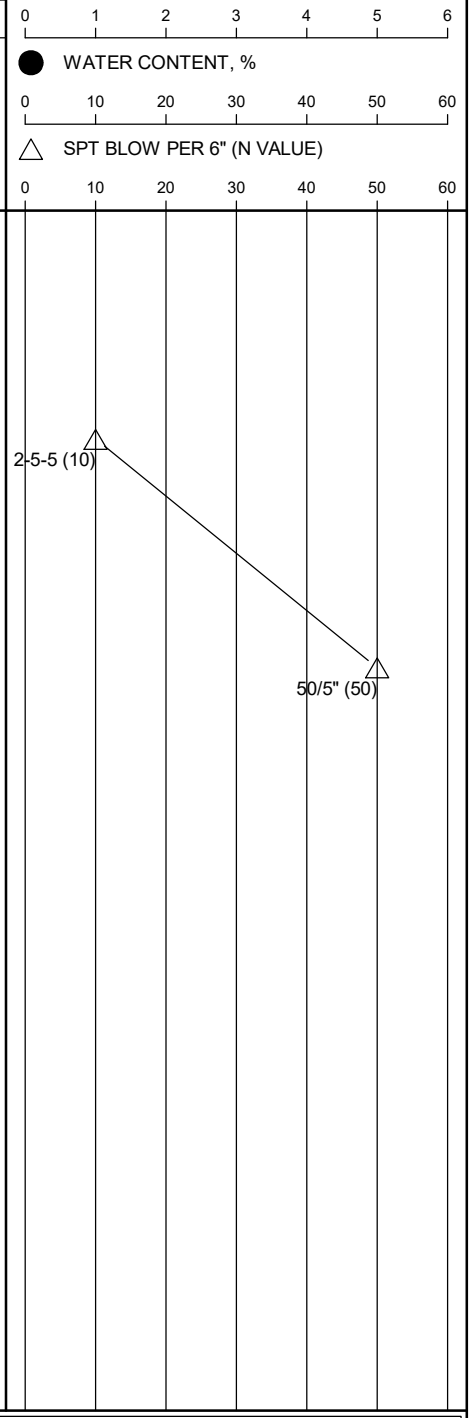
BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP10**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-18-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-18-24** FOREMAN **Carlos / Ruben**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 552

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (3.0 inches)	0.0				
0.6		CRUSHED STONE FILL (4.0 inches)					
		Medium dense, gray, moist, SILTY SAND with gravel (SM)		SS		1	0.0
			2.0				
3.5		Very dense, gray, SILTY GRAVEL with sand, trace COBBLE		SS		2	0.0
			4.0				
4.5		COBBLE with silt and sand Run 1A = 4.5' to 8.0' (3.5') Recovery = 19% (0.67')					
			6.0	RC		3	0.0
8.0			8.0				
		LIMESTONE / DOLOMITE : hard, light gray, slightly weathered, thin bedded, very intensely to intensely fractured, fine grained Run 1B = 8.0' to 9.5' (1.5') Recovery = 100% (1.5') RQD = 0%		RC		4	0.0
9.5		**End of Boring at 9.5 Feet**					



▽ WATER LEVEL WHILE DRILLING = None Observed prior to rock coring

▼ WATER LEVEL AFTER DRILLING = Water used for rock coring

REMARKS
Rock coring from 4.5' to 9.5'

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP11**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **3-19-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **3-19-24** FOREMAN **Ruben Perez**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 554

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.7		TOPSOIL - dark gray, SILTY CLAY, trace gravel and fine roots	0.0				
		Medium dense, gray, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
3.0		Dense, brown, moist, SILTY SAND with gravel (SM)	4.0	SS		2	0.0
5.5		Medium dense, brown, moist, SILTY SAND with gravel (SM)	6.0	SS		3	0.0
8.0		Dense, brown, moist to wet, SILTY SAND with gravel (SM)	8.0	SS		4	0.0
		- Wet below 11.0 feet	10.0	SS		5	0.0
			12.0	SS		6	0.0
			14.0				
			16.0				
17.0		Very dense, gray, wet, SILTY CLAYEY SAND, trace gravel (SC-SM)	18.0	SS		7	0.0
20.0		**End of Boring at 20.0 Feet**	20.0				

SPT BLOW PER 6" (N VALUE)

0 10 20 30 40 50 60

2-5-7 (12)

12-15-24 (39)

5-10-12 (22)

10-21-14 (35)

10-20-18 (38)

12-17-20 (37)

62

10-21-41 (62)

WATER CONTENT, %

0 10 20 30 40 50 60

CALIBRATED PENETROMETER,TONS/FT^2

UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2

0 1 2 3 4 5 6

▽ WATER LEVEL WHILE DRILLING = 11.0 feet

▼ WATER LEVEL AFTER DRILLING = 11.0

REMARKS
Cave-in depth after auger retrieval = 11.0 feet

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP12**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **8-16-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **8-16-24** FOREMAN **Carlos Santana**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 553

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (4.0 inches)	0.0				
1.0		CRUSHED STONE FILL (8.0 inches)					
		Medium dense, brown, moist, SILTY SAND with gravel (SM)	2.0	SS		1	0.0
			4.0	SS		2	0.0
			6.0	SS		3	0.0
8.0		Dense, brown, moist, SILTY SAND with gravel (SM)	8.0	SS		4	0.0
10.5		Medium dense, brown, moist to wet, SILTY SAND with gravel (SM)	10.0	SS		5	0.0
		▽ - Wet below 13.5 feet	12.0	SS		6	0.0
17.0		Hard, gray, SILTY CLAY with sand, trace gravel (CL-ML)	14.0				
			16.0				
			18.0	SS		7	0.0
20.0		**End of Boring at 20.0 Feet**	20.0				

WATER CONTENT, %: 0 10 20 30 40 50 60

SPT BLOW PER 6" (N VALUE): 0 10 20 30 40 50 60

8-11-11 (22)
8-7-9 (16)
8-8-9 (17)
9-13-23 (36)
8-13-10 (23)
23-26-13 (29)
10-9-11 (20)

▽ WATER LEVEL WHILE DRILLING = 13.5 feet

▼ WATER LEVEL AFTER DRILLING IN AUGERS = 13.0 feet

REMARKS
Cave-in depth after auger retrieval = 15.0 feet

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24

SOIL BORING LOG

CLIENT **City of Joliet, Illinois**	BORING NUMBER **HP13**	COUNTY **13940**	
PROJECT NAME **2025 Water Main Rehabilitation Program**		DES NO. **Will**	
PROJECT LOCATION **Heggie Park, Joliet, IL**	STRUCTURE NUMBER	NORTHING	EASTING
BORING STARTED **8-16-24** RIG **D120**	FILE NUMBER **13940**	⊕ CALIBRATED PENETROMETER,TONS/FT^2	
BORING COMPLETED **8-16-24** FOREMAN **Carlos /Ed Winn**		○ UNCONFINED COMPRESSIVE STRENGTH, TONS/FT^2	

GROUND SURFACE ELEVATION 553

STRATA DEPTH (FEET)	TEXTURAL CLASSIFICATION	DESCRIPTION OF MATERIAL	DEPTH (FEET)	SAMPLE TYPE	SAMPLE RECOVERY	SAMPLE NUMBER	PID READING VOCs (PPM)
0.3		ASPHALT PAVEMENT (4.0 inches)	0.0				
1.0		CRUSHED STONE FILL (8.0 inches)					
		Medium dense, black, moist, SLAG SAND, trace gravel (SP)	2.0	SS		1	0.0
3.0		Medium dense, brown, moist, SILTY SAND with gravel (SM)	4.0	SS		2	0.0
5.5		Very dense, brown, moist, SILTY SAND with gravel (SM)	6.0	SS		3	0.0
8.0		Dense, brown, moist, SILTY SAND with gravel (SM)	8.0	SS		4	0.0
9.0		COBBLE / BOULDER					
9.5		**Auger Refusal at 9.5 Feet**	10.0				
			12.0				
			14.0				

WATER CONTENT, %

0 10 20 30 40 50 60

△ SPT BLOW PER 6" (N VALUE)

0 10 20 30 40 50 60

5-6-8 (14)

8-9-10 (19)

10-30-21 (51)

20-50/5"

▽ WATER LEVEL WHILE DRILLING = None Observed

▼ WATER LEVEL AFTER DRILLING IN AUGERS = None observed

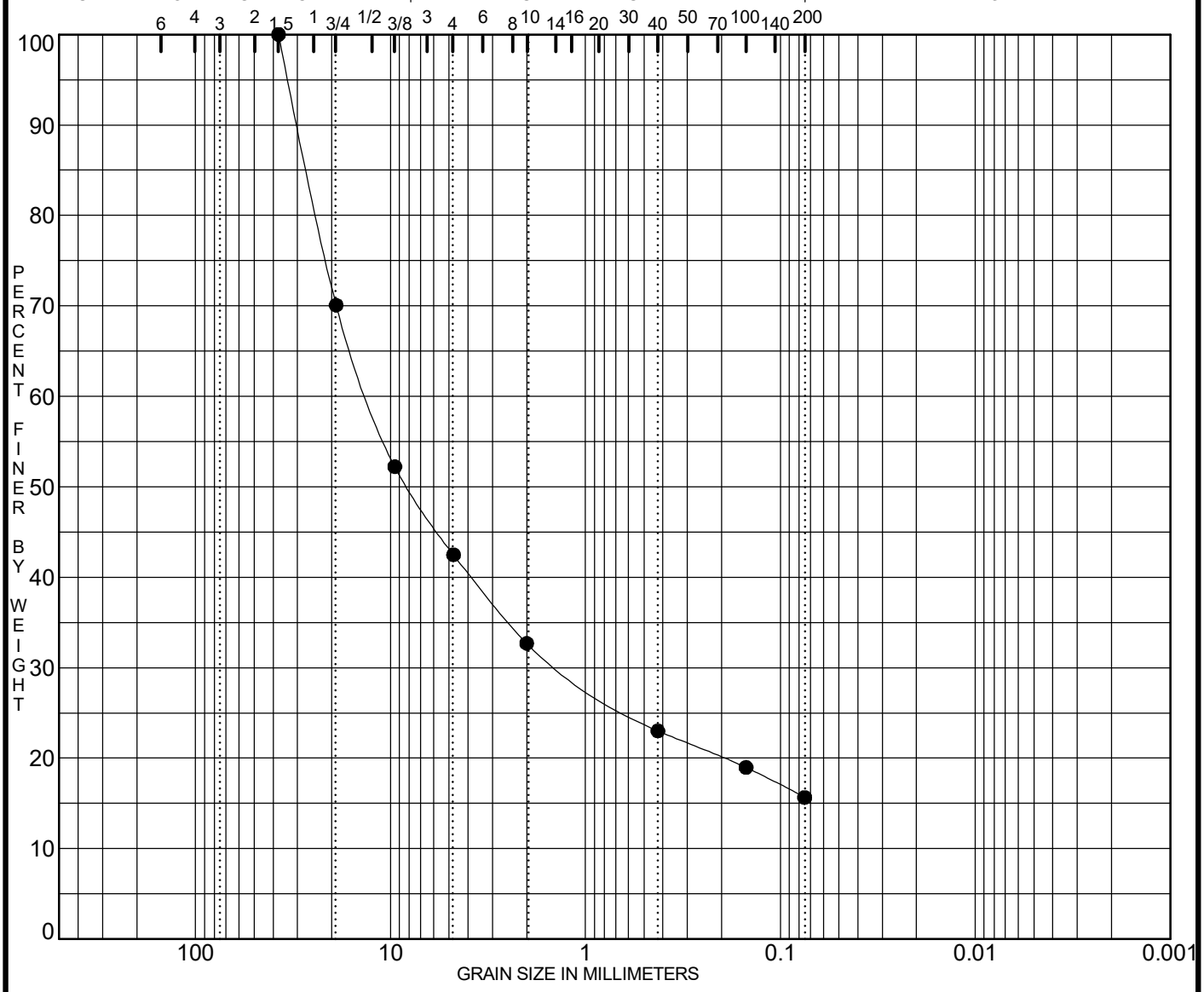
REMARKS
Cave-in depth after auger retrieval = 7.0 feet

SS SPLIT SPOON ST SHELBY TUBE A AUGER RC ROCK CORE

+ PL - PLASTIC LIMIT + LL - LIQUID LIMIT γ_d - UNIT DRY WEIGHT

K & S ENGINEERS, INC.

BORING LOG - K&S LOMBARD 8 13940-WATER MAIN REHABILITATION-HEGGIE PARK.GPJ 9-4-24



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

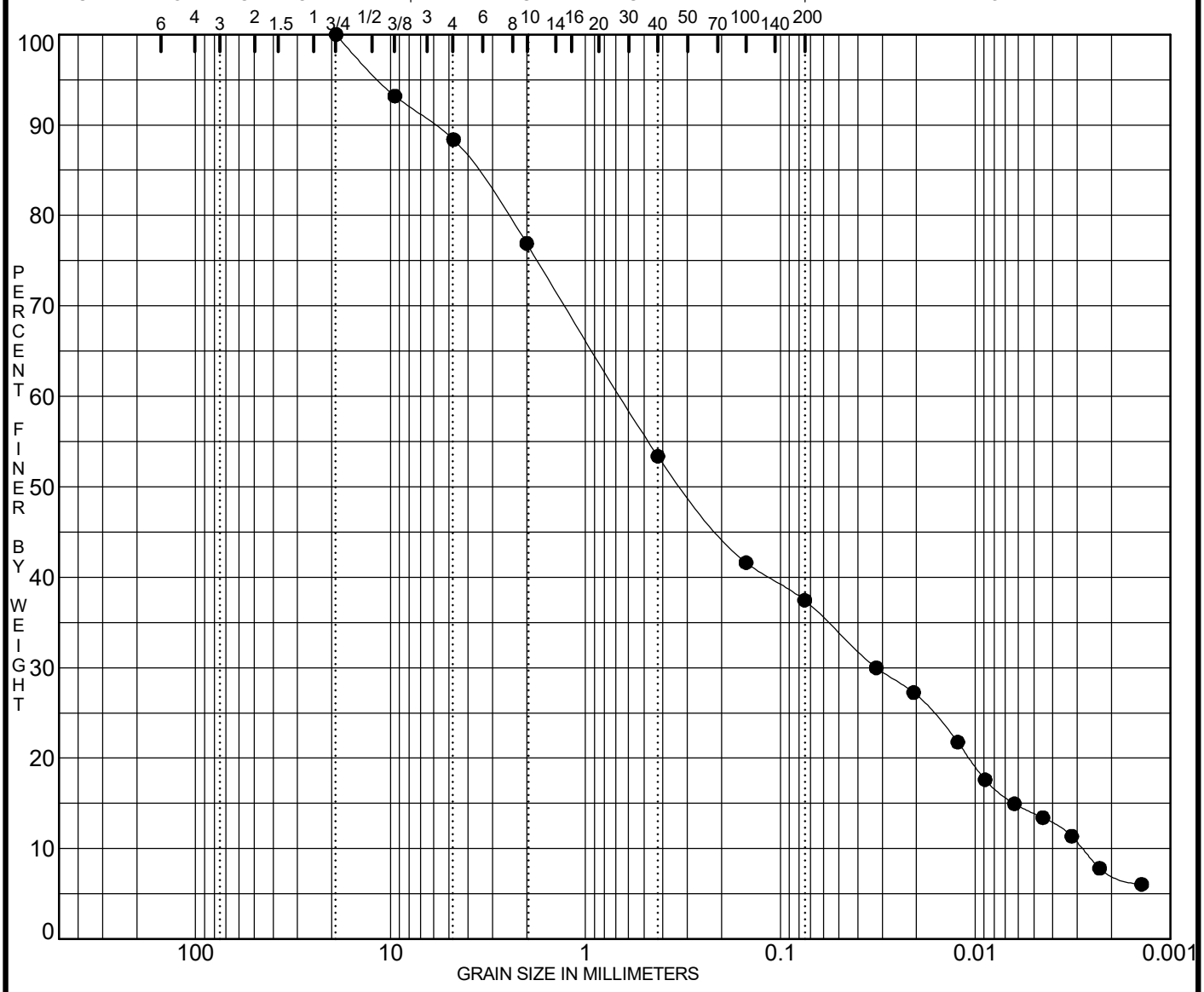
	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	**HP11**	**3.5**	**SILTY GRAVEL with SAND GM**		**NP**	**NP**	**NP**		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**HP11**	**3.5**	**37.50**	**12.85**	**1.301**		**57.5**	**26.8**	**15.7**	

PROJECT **2025 Water Main Rehabilitation Program - Heggie Park, Joliet, IL**
DES. NO. **Will**
PROJ. NO. **13940**
JOB NO. **13940**
DATE **4/3/24**

GRADATION CURVES

K & S ENGINEERS, INC.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	**HP11**	**18.5**	**SILTY, CLAYEY SAND SC-SM**		**20**	**14**	**6**	**0.56**	**233.3**

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**HP11**	**18.5**	**19.00**	**0.66**	**0.032**	**0.0028**	**11.6**	**50.9**	**23.6**	**13.9**

PROJECT **2025 Water Main Rehabilitation Program - Heggie Park, Joliet, IL**
DES. NO. **Will**
PROJ. NO. **13940**
JOB NO. **13940**
DATE **4/3/24**

GRADATION CURVES

K & S ENGINEERS, INC.

K & S Engineers, Inc.
9715 Kennedy Avenue
Highland, IN 46322
(219) 924-5231 (phone)
(219) 924-5271 (fax)
info@kandsengineers.com

General Qualifications

- This report has been prepared in order to aid in the evaluation of this property and to assist the architect and/or engineer in the design of this project. The scope is limited to the specific project and location described herein. In the event that any changes in the design or location of the building as outlined in this report are planned, we should be informed so that changes can be reviewed and the conclusions of this report modified as necessary. We recommend that we be authorized to review the project plans and specifications within our scope of work to confirm that the recommendations contained in this report have been interpreted in accordance with our intent. Without this review, we will not be responsible for misinterpretation of our data, our analysis, and/or our recommendations, nor how these are incorporated into the final design.

- The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the location diagram and from any other information discussed in this report. This report does not reflect any variations which may occur between these borings. In the performance of subsurface explorations, specific information is obtained at specific locations at specific times. However, it is a well-known fact that variations in soil and rock conditions exist on most sites between boring locations and also, such situations as groundwater levels vary from time to time. The nature and extent of variations may not become evident, it will be necessary for a re-evaluation of the recommendations of this report after performing on-site observations during construction period and noting the characteristics of any variations.

APPENDIX D

LPC 663

BAXTER & WOODMAN
Consulting Engineers

K&S ENGINEERS, INC.
9715 Kennedy Avenue • Highland, Indiana 46322
(219) 924-5231 • (773) 734-5900 • FAX (219) 924-5271
www.kandsengineers.com • info@kandsengineers.com

November 4, 2024

K&S File No. 13940

City of Joliet
150 West Jefferson Street
Joliet, IL 60432

Attn: Mr. Ryan Y. Liang, P.E.
rliang@joliet.gov
(815) 724-4220

REPORT OF CLEAN CONSTRUCTION DEMOLITION DEBRIS (CCDD)
2025 WATER MAIN PROGRAM
CITY OF JOLIET, ILLINOIS

Dear Mr. Liang:

This letter report presents the analytical results obtained from the sampling event on March 18, 2024 for the above referenced project at Woodruff Road, City of Joliet, Illinois. K&S Engineers, Inc. (K&S) mobilized to the above referenced site and collected one (1) environmental soil sample at location HP-2. The sample was collected from a soil boring HP-2. The sample was collected at strategic location using truck mounted drill rig at an approximate depth of 0 to 2 feet. Please find attached the sample location map in *Attachment A*. After the completion of sampling, the grabbed sample was containerized and transferred to Eurofins Test America Laboratories in Merrillville, Indiana. A chain of custody record accompanied the sample which was analyzed for pH, Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Total metals and mercury as per requirements for Clean Construction Demolition Debris (CCDD). Please find Eurofins Test America Laboratories results in *Attachment C.*

The detected laboratory data for the sample is tabulated in *Attachment B* and accordingly compared with the standard values for Maximum Allowable Concentrations (MAC) of chemical constituents in uncontaminated soil used as fill material at regulated fill operations (35 III. Adm. Code 1100.Subpart F). All the values were below the MAC standards except for Iron. Therefore, a Toxicity Characteristic Leaching Procedure (TCLP) in Barium, Cadmium and Iron was analyzed for compliance verification. The results were below the TACO Class I and Class II Soil Component of the Groundwater Ingestion Exposure Route objective (35 III. Adm. Code 742.Appendix B,

Table A). Please find Eurofins TestAmerica Laboratory Results in *Attachment C*. Based on the test results, we are issuing an uncontaminated soil certification LPC-663 form included in *Attachment D*.

We appreciate the opportunity to work with you on this project. If you have any questions concerning this report, or if you require any additional services, please do not hesitate to contact us.

Very truly yours,
K & S Engineers, Inc.

Rahman Babur
Staff Engineer

Dibakar Sundi, P.E.
Senior Project Engineer

Attachments: *Attachment A* – CCDD Sampling Location Plan
Attachment B – MAC Table and TCLP Table
Attachment C – Eurofins Test America Laboratory Results
Attachment D – LPC-663 Form

Attachment A



Source Note: Adapted From Google Earth.

K & S ENGINEERS, INC.
SOIL TESTING AND FOUNDATION CONSULTANTS

SAMPLING LOCATION PLAN
2025 WATER MAIN PROGRAM
JOLIET, IL

N
W E
S

Date: 11-04-2024	**ATTACHMENT A**
Scale: Not to Scale	**File No. 13940**
Legend: **B-#** ⊕ Approximate Boring Location	

Attachment B

Maximum Allowable Concentrations (MAC) TABLE

HP-2

			Project	City Of Joliet Water Main Program
			Sample ID	HP-2
			Date/Time of Collection	03/18/2024 12:00PM
			Maximum Allowable Concentration	
Description	CASNumber	Analyte	**MAC**	
pH		pH	**6.25 - 9.0**	8.6
SVOCs w/Low Level PAHs	83-32-9	Acenaphthene	**570**	0.041
SVOCs w/Low Level PAHs	120-12-7	Anthracene	**12000**	0.15
SVOCs w/Low Level PAHs	56-55-3	Benzo[a]anthracene - MSA excluding Chicago	**1.8**	0.49
SVOCs w/Low Level PAHs	56-55-3	Benzo[a]anthracene - non-MSA county	**0.9**	0.49
SVOCs w/Low Level PAHs	56-55-3	Benzo[a]anthracene - within Chicago	**1.1**	0.49
SVOCs w/Low Level PAHs	50-32-8	Benzo[a]pyrene - MSA excluding Chicago	**2.1**	0.50
SVOCs w/Low Level PAHs	50-32-8	Benzo[a]pyrene - non-MSA county	**0.98**	0.50
SVOCs w/Low Level PAHs	50-32-8	Benzo[a]pyrene - outside populated area	**0.98**	0.50
SVOCs w/Low Level PAHs	50-32-8	Benzo[a]pyrene - within Chicago	**1.3**	0.50
SVOCs w/Low Level PAHs	205-99-2	Benzo[b]fluoranthene - MSA excluding Chicago	**2.1**	0.70
SVOCs w/Low Level PAHs	205-99-2	Benzo[b]fluoranthene - non-MSA county	**0.9**	0.70
SVOCs w/Low Level PAHs	205-99-2	Benzo[b]fluoranthene - within Chicago	**1.5**	0.70
SVOCs w/Low Level PAHs	191-24-2	Benzo[g,h,i]perylene		0.46
SVOCs w/Low Level PAHs	207-08-9	Benzo[k]fluoranthene	**9**	0.31
SVOCs w/Low Level PAHs	86-74-8	Carbazole	**0.6**	0.14
SVOCs w/Low Level PAHs	218-01-9	Chrysene	**88**	0.57
SVOCs w/Low Level PAHs	53-70-3	Dibenz[a,h]anthracene - MSA excluding Chicago	**0.42**	0.095
SVOCs w/Low Level PAHs	53-70-3	Dibenz[a,h]anthracene - non-MSA county	**0.15**	0.05
SVOCs w/Low Level PAHs	53-70-3	Dibenz[a,h]anthracene - outside populated area	**0.09**	0.085
SVOCs w/Low Level PAHs	53-70-3	Dibenz[a,h]anthracene - within Chicago	**0.2**	0.175
SVOCs w/Low Level PAHs	206-44-0	Fluoranthene	**3100**	1.2
SVOCs w/Low Level PAHs	86-73-7	Fluorene	**560**	0.058
SVOCs w/Low Level PAHs	193-39-5	Indeno[1,2,3cd]pyrene - MSA excluding Chicago	**1.6**	0.41
SVOCs w/Low Level PAHs	193-39-5	Indeno[1,2,3cd]pyrene - within Chicago	**0.9**	0.41
SVOCs w/Low Level PAHs	91-20-3	Naphthalene	**1.8**	0.037
SVOCs w/Low Level PAHs	85-01-8	Phenanthrene		0.97
SVOCs w/Low Level PAHs	129-00-0	Pyrene	**2300**	0.92
Total Mercury by CVAA	7439-97-6	Mercury - elemental	**0.1**	0.048
Total Mercury by CVAA	7439-97-6	Mercury - ionic	**0.89**	0.048
Total Metals by ICP	7440-38-2	Arsenic - within a non-MSA county	**11.3**	8.5
Total Metals by ICP	7440-38-2	Arsenic - within an MSA county	**13**	8.5
Total Metals by ICP	7440-42-8	Boron	**40**	40
Total Metals by ICP	7440-39-3	Barium	**1500**	85
Total Metals by ICP	7440-43-9	Cadmium	**5.2**	1.0
Total Metals by ICP	7440-41-7	Beryllium	**22**	1.7
Total Metals by ICP	7440-70-2	Calcium		15000
Total Metals by ICP	7440-47-3	Chromium	**21**	9.8
Total Metals by ICP	7440-48-4	Cobalt	**20**	6.6
Total Metals by ICP	7440-50-8	Copper	**2900**	34
Total Metals by ICP	7439-89-6	Iron - within a MSA county	**15900**	24000
Total Metals by ICP	7439-89-6	Iron - within a non-MSA county	**15000**	24000
Total Metals by ICP	7439-92-1	Lead	**107**	44
Total Metals by ICP	7439-95-4	Magnesium	**325000**	49000
Total Metals by ICP	7439-96-5	Manganese - within a MSA county	**636**	350
Total Metals by ICP	7439-96-5	Manganese - within a non-MSA county	**630**	350
Total Metals by ICP	7440-02-0	Nickel	**100**	19
Total Metals by ICP	7440-28-0	Thallium	**2.6**	0.53
Total Metals by ICP	7440-09-7	Potassium		990
Total Metals by ICP	7782-49-2	Selenium	**1.3**	0.66
Total Metals by ICP	7440-22-4	Silver	**4.4**	1.3
Total Metals by ICP	7440-23-5	Sodium		770
Total Metals by ICP	7440-62-2	Vanadium	**550**	15
Total Metals by ICP	7440-66-6	Zinc	**5100**	250

All results are in mg/Kg or mg/L (ppm)

All values for the MAC table are taken from the August 27, 2012 version of the "Summary of Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 1100.Subpart F)"
All other values are taken from Feb 23, 2007 version of the tables in Appendix B of Section 742 of TACO (Tiered Approach to Corrective Action)

K&S

Toxicity Characteristic Leaching Procedure (TCLP) Table

HP-2

				Project	City Of Joliet Water Main Program
				Sample ID	**HP-2**
				Date/Time of Collection	03/18/2024 12:00pm
			Groundwater Remediation Objective		
Description	CASNumber	Analyte	Class I	Class II	
TCLP Metals by ICP	7440-39-3	Barium	2.0	2.0	0.56
TCLP Metals by ICP	7440-43-9	Cadmium	0.005	0.05	0.0043
TCLP Metals by ICP	15438-31-0	Iron	5.0	5.0	<0.20

All results are in mg/Kg or mg/L (ppm)

All values for theTCLP table are taken from the TACO Class I and Class II Soil Component of the Groundwater Ingestion Exposure Route objective (35 Ill. Adm. Code 742.Appendix B, Table A)

Attachment C

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Rahman Babur
K&S Engineers Inc.
9715 Kennedy Avenue
Highland, Indiana 46322

Generated 4/1/2024 1:04:24 PM

JOB DESCRIPTION

13940 Water Main Program CCDD (HP-2)

JOB NUMBER

500-247710-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Authorized for release by
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Job Narrative
500-247710-1

Receipt
The sample was received on 3/19/2024 2:30 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

GC/MS VOA
Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: HP-2 (500-247710-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) analyzed in 500-759784 was outside the method criteria for the following analyte(s): Di-n-octyl phthalate and N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-759784 was outside the method criteria for the following analyte(s): Benzoic acid and Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-759952 was outside the method criteria for the following analyte(s): Hexachlorocyclopentadiene, 4-Nitrophenol and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in 500-759952 was outside the method criteria for the following analyte(s): Indeno[1,2,3-cd]pyrene and Nitrobenzene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The following samples were diluted due to the nature of the sample matrix: (500-247710-F-1-B MS) and (500-247710-F-1-C MSD). Elevated reporting limits (RLs) are provided.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-760145 was outside the method criteria for the following analyte(s): Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in 500-760145 was outside the method criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The following sample was diluted due to the nature of the sample matrix: HP-2 (500-247710-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.041	J F1	0.075	0.015	mg/Kg	2	☼	8270E	Total/NA
Anthracene	0.15		0.075	0.015	mg/Kg	2	☼	8270E	Total/NA
Benzo[a]anthracene	0.49		0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Benzo[a]pyrene	0.50		0.075	0.073	mg/Kg	2	☼	8270E	Total/NA
Benzo[b]fluoranthene	0.70		0.075	0.072	mg/Kg	2	☼	8270E	Total/NA
Benzo[g,h,i]perylene	0.46	F1	0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Benzo[k]fluoranthene	0.31		0.075	0.029	mg/Kg	2	☼	8270E	Total/NA
Carbazole	0.14	J	0.38	0.030	mg/Kg	2	☼	8270E	Total/NA
Chrysene	0.57		0.075	0.020	mg/Kg	2	☼	8270E	Total/NA
Dibenz(a,h)anthracene	0.095		0.075	0.075	mg/Kg	2	☼	8270E	Total/NA
Fluoranthene	1.2		0.075	0.017	mg/Kg	2	☼	8270E	Total/NA
Fluorene	0.058	J	0.075	0.022	mg/Kg	2	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	0.41		0.075	0.073	mg/Kg	2	☼	8270E	Total/NA
Naphthalene	0.037	J F1	0.075	0.014	mg/Kg	2	☼	8270E	Total/NA
Phenanthrene	0.97		0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Pyrene	0.92		0.075	0.021	mg/Kg	2	☼	8270E	Total/NA
Arsenic	8.5		0.54	0.18	mg/Kg	1	☼	6010D	Total/NA
Barium	85		2.7	0.31	mg/Kg	5	☼	6010D	Total/NA
Beryllium	1.7		0.22	0.050	mg/Kg	1	☼	6010D	Total/NA
Boron	40		2.7	0.25	mg/Kg	1	☼	6010D	Total/NA
Cadmium	1.0	B	0.11	0.019	mg/Kg	1	☼	6010D	Total/NA
Calcium	95000	B	54	9.2	mg/Kg	5	☼	6010D	Total/NA
Chromium	9.8		0.54	0.27	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.6		0.27	0.071	mg/Kg	1	☼	6010D	Total/NA
Copper	34		2.7	0.76	mg/Kg	5	☼	6010D	Total/NA
Iron	24000	B	54	28	mg/Kg	5	☼	6010D	Total/NA
Lead	44		1.4	0.62	mg/Kg	5	☼	6010D	Total/NA
Magnesium	49000	B	27	13	mg/Kg	5	☼	6010D	Total/NA
Manganese	350	B	0.54	0.078	mg/Kg	1	☼	6010D	Total/NA
Nickel	19		0.54	0.16	mg/Kg	1	☼	6010D	Total/NA
Potassium	990		27	9.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.66		0.54	0.32	mg/Kg	1	☼	6010D	Total/NA
Silver	1.3	J	1.4	0.35	mg/Kg	5	☼	6010D	Total/NA
Sodium	770		54	8.0	mg/Kg	1	☼	6010D	Total/NA
Thallium	0.53	J	0.54	0.27	mg/Kg	1	☼	6010D	Total/NA
Vanadium	15		0.27	0.064	mg/Kg	1	☼	6010D	Total/NA
Zinc	250		1.1	0.47	mg/Kg	1	☼	6010D	Total/NA
Barium	0.56		0.50	0.050	mg/L	1		6010D	TCLP
Cadmium	0.0043	J	0.0050	0.0020	mg/L	1		6010D	TCLP
Mercury	0.048		0.019	0.010	mg/Kg	1	☼	7471B	Total/NA
pH	8.6		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CHI
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CHI
6010D	Metals (ICP)	SW846	EET CHI
7470A	TCLP Mercury	SW846	EET CHI
7471B	Mercury (CVAA)	SW846	EET CHI
9045D	pH	SW846	EET CHI
Moisture	Percent Moisture	EPA	EET CHI
1311	TCLP Extraction	SW846	EET CHI
3010A	Preparation, Total Metals	SW846	EET CHI
3050B	Preparation, Metals	SW846	EET CHI
3546	Microwave Extraction	SW846	EET CHI
5035	Closed System Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI
7471B	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-247710-1	HP-2	Solid	03/18/24 12:00	03/19/24 14:30

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Date Collected: 03/18/24 12:00
Date Received: 03/19/24 14:30

Lab Sample ID: 500-247710-1
Matrix: Solid
Percent Solids: 86.9

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0073		0.017	0.0073	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Benzene	<0.00043		0.0017	0.00043	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromodichloromethane	<0.00034		0.0017	0.00034	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromoform	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromomethane	<0.0016		0.0042	0.0016	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
2-Butanone (MEK)	<0.0019		0.0042	0.0019	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Carbon disulfide	<0.00087		0.0042	0.00087	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Carbon tetrachloride	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Chlorobenzene	<0.00062		0.0017	0.00062	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Chloroform	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
cis-1,2-Dichloroethene	<0.00047		0.0017	0.00047	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Dibromochloromethane	<0.00055		0.0017	0.00055	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dibromo-3-Chloropropane	<0.0017		0.0042	0.0017	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dibromoethane	<0.00064		0.0017	0.00064	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1-Dichloroethane	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dichloroethane	<0.0013		0.0042	0.0013	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1-Dichloroethene	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dichloropropane	<0.00043		0.0017	0.00043	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,3-Dichloropropene, Total	<0.00059		0.0017	0.00059	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Ethylbenzene	<0.00080		0.0017	0.00080	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Methylene Chloride	<0.0017		0.0042	0.0017	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Methyl tert-butyl ether	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
m&p-Xylene	<0.00053		0.0034	0.00053	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
n-Butyl alcohol	<0.053		0.11	0.053	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
o-Xylene	<0.00054		0.0017	0.00054	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Styrene	<0.00051		0.0017	0.00051	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Tetrachloroethene	<0.00057		0.0017	0.00057	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Toluene	<0.00042		0.0017	0.00042	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
trans-1,2-Dichloroethene	<0.00074		0.0017	0.00074	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1,1-Trichloroethane	<0.00056		0.0017	0.00056	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1,2-Trichloroethane	<0.00072		0.0017	0.00072	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Trichloroethene	<0.00057		0.0017	0.00057	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Vinyl acetate	<0.0015		0.0042	0.0015	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Vinyl chloride	<0.00074		0.0017	0.00074	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Xylenes, Total	<0.00054		0.0034	0.00054	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*75 - 131*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 134*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
Toluene-d8 (Surr)	*121*		*75 - 124*	*03/19/24 17:51*	*03/20/24 15:01*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.041**	**J F1**	0.075	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Acenaphthylene	<0.013	F1	0.075	0.013	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Aldicarb	<0.75		1.5	0.75	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Anthracene	**0.15**		0.075	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[a]anthracene	**0.49**		0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[a]pyrene	**0.50**		0.075	0.073	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2

Client Sample ID: HP-2 **Lab Sample ID: 500-247710-1**
Date Collected: 03/18/24 12:00 **Matrix: Solid**
Date Received: 03/19/24 14:30 **Percent Solids: 86.9**

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.70**		0.075	0.072	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[g,h,i]perylene	**0.46**	**F1**	0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzoic acid	<0.46		3.8	0.46	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[k]fluoranthene	**0.31**		0.075	0.029	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Bis(2-chloroethyl)ether	<0.035		0.38	0.035	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Bis(2-ethylhexyl) phthalate	<0.29		0.38	0.29	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Butyl benzyl phthalate	<0.037		0.38	0.037	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Carbazole	**0.14**	**J**	0.38	0.030	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Carbofuran	<0.38		1.5	0.38	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
4-Chloroaniline	<0.79		1.5	0.79	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2-Chlorophenol	<0.024	F1	0.38	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Chrysene	**0.57**		0.075	0.020	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Dibenz(a,h)anthracene	**0.095**		0.075	0.075	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,2-Dichlorobenzene	<0.031	F1	0.38	0.031	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,4-Dichlorobenzene	<0.036	F1	0.38	0.036	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
3,3'-Dichlorobenzidine	<0.061		0.38	0.061	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dichlorophenol	<0.027		0.75	0.027	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Diethyl phthalate	<0.034		0.38	0.034	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dimethylphenol	<0.17		0.75	0.17	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Di-n-butyl phthalate	<0.024		0.38	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dinitrophenol	<0.44	F1	1.5	0.44	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dinitrotoluene	<0.043	F1	0.38	0.043	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,6-Dinitrotoluene	<0.026	F1	0.38	0.026	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Di-n-octyl phthalate	<0.53		0.75	0.53	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Fluoranthene	**1.2**		0.075	0.017	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Fluorene	**0.058**	**J**	0.075	0.022	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorobenzene	<0.014		0.15	0.014	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorobutadiene	<0.042		0.38	0.042	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorocyclopentadiene	<0.80	F1	1.5	0.80	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachloroethane	<0.038	F1	0.38	0.038	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Indeno[1,2,3-cd]pyrene	**0.41**		0.075	0.073	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Isophorone	<0.039		0.38	0.039	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2-Methylphenol	<0.040		0.38	0.040	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Naphthalene	**0.037**	**J F1**	0.075	0.014	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Nitrobenzene	<0.024		0.075	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
4-Nitrophenol	<0.28		1.5	0.28	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
N-Nitrosodi-n-propylamine	<0.015		0.15	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
N-Nitrosodiphenylamine	<0.045		0.38	0.045	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pentachlorophenol	<0.19		1.5	0.19	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Phenanthrene	**0.97**		0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Phenol	<0.033		0.38	0.033	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pyrene	**0.92**		0.075	0.021	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pyridine	<0.49	F1	1.5	0.49	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,2,4-Trichlorobenzene	<0.054	F1	0.38	0.054	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4,5-Trichlorophenol	<0.028		0.75	0.028	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4,6-Trichlorophenol	<0.026		0.75	0.026	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*43 - 145*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
2-Fluorophenol	*58*		*31 - 166*	*03/24/24 16:00*	*03/27/24 15:13*	*2*

Client Sample ID: HP-2 **Lab Sample ID: 500-247710-1**
Date Collected: 03/18/24 12:00 **Matrix: Solid**
Date Received: 03/19/24 14:30 **Percent Solids: 86.9**

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5	*61*		*37 - 147*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
Phenol-d5	*63*		*30 - 153*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
Terphenyl-d14	*55*		*42 - 157*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
2,4,6-Tribromophenol	*63*		*31 - 143*	*03/24/24 16:00*	*03/27/24 15:13*	*2*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.21		1.1	0.21	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Arsenic	**8.5**		0.54	0.18	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Barium	**85**		2.7	0.31	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Beryllium	**1.7**		0.22	0.050	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Boron	**40**		2.7	0.25	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Cadmium	**1.0**	**B**	0.11	0.019	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Calcium	**95000**	**B**	54	9.2	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Chromium	**9.8**		0.54	0.27	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Cobalt	**6.6**		0.27	0.071	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Copper	**34**		2.7	0.76	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Iron	**24000**	**B**	54	28	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Lead	**44**		1.4	0.62	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Magnesium	**49000**	**B**	27	13	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Manganese	**350**	**B**	0.54	0.078	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Nickel	**19**		0.54	0.16	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Potassium	**990**		27	9.6	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Selenium	**0.66**		0.54	0.32	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Silver	**1.3**	**J**	1.4	0.35	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Sodium	**770**		54	8.0	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Thallium	**0.53**	**J**	0.54	0.27	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Vanadium	**15**		0.27	0.064	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Zinc	**250**		1.1	0.47	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		03/26/24 16:28	03/28/24 14:11	1
Barium	**0.56**		0.50	0.050	mg/L		03/26/24 16:28	03/28/24 14:11	1
Cadmium	**0.0043**	**J**	0.0050	0.0020	mg/L		03/26/24 16:28	03/28/24 14:11	1
Chromium	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 14:11	1
Lead	<0.0075		0.050	0.0075	mg/L		03/26/24 16:28	03/28/24 21:31	1
Selenium	<0.020		0.050	0.020	mg/L		03/26/24 16:28	03/28/24 14:11	1
Silver	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 21:31	1

Method: SW846 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:44	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.048**		0.019	0.010	mg/Kg	☼	03/28/24 15:45	03/29/24 09:49	1

Client Sample Results

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2 **Lab Sample ID: 500-247710-1**
Date Collected: 03/18/24 12:00 **Matrix: Solid**
Date Received: 03/19/24 14:30 **Percent Solids: 86.9**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	8.6		0.2	0.2	SU			03/25/24 15:01	1
Percent Moisture (EPA Moisture)	13.1		0.1	0.1	%			03/26/24 10:12	1
Percent Solids (EPA Moisture)	86.9		0.1	0.1	%			03/26/24 10:12	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
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)
TNTC	Too Numerous To Count

GC/MS VOA

Prep Batch: 759034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	5035	

Analysis Batch: 759040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	8260D	759034
MB 500-759040/7	Method Blank	Total/NA	Solid	8260D	
LCS 500-759040/4	Lab Control Sample	Total/NA	Solid	8260D	
LCSD 500-759040/5	Lab Control Sample Dup	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 759669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	3546	
MB 500-759669/1-A	Method Blank	Total/NA	Solid	3546	
LCS 500-759669/2-A	Lab Control Sample	Total/NA	Solid	3546	
500-247710-1 MS	HP-2	Total/NA	Solid	3546	
500-247710-1 MSD	HP-2	Total/NA	Solid	3546	

Analysis Batch: 759784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-759669/1-A	Method Blank	Total/NA	Solid	8270E	759669
LCS 500-759669/2-A	Lab Control Sample	Total/NA	Solid	8270E	759669

Analysis Batch: 759952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1 MS	HP-2	Total/NA	Solid	8270E	759669
500-247710-1 MSD	HP-2	Total/NA	Solid	8270E	759669

Analysis Batch: 760145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	8270E	759669

Metals

Leach Batch: 759696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	1311	
LB 500-759696/1-B	Method Blank	TCLP	Solid	1311	
LB 500-759696/1-E	Method Blank	TCLP	Solid	1311	

Prep Batch: 759806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	3050B	
MB 500-759806/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-759806/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 760071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	3010A	759696
LB 500-759696/1-B	Method Blank	TCLP	Solid	3010A	759696
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Metals

Analysis Batch: 760343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	6010D	759806
MB 500-759806/1-A	Method Blank	Total/NA	Solid	6010D	759806
LCS 500-759806/2-A	Lab Control Sample	Total/NA	Solid	6010D	759806

Prep Batch: 760395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	7471B	
MB 500-760395/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-760395/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 760451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	6010D	759806

Analysis Batch: 760461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	6010D	760071
LB 500-759696/1-B	Method Blank	TCLP	Solid	6010D	760071
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	6010D	760071

Analysis Batch: 760585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	6010D	760071
LB 500-759696/1-B	Method Blank	TCLP	Solid	6010D	760071
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	6010D	760071

Prep Batch: 760626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	7470A	759696
LB 500-759696/1-E	Method Blank	TCLP	Solid	7470A	759696
MB 500-760626/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-760626/14-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 760632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	7471B	760395
MB 500-760395/12-A	Method Blank	Total/NA	Solid	7471B	760395
LCS 500-760395/13-A	Lab Control Sample	Total/NA	Solid	7471B	760395

Analysis Batch: 760921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	7470A	760626
LB 500-759696/1-E	Method Blank	TCLP	Solid	7470A	760626
MB 500-760626/12-A	Method Blank	Total/NA	Solid	7470A	760626
LCS 500-760626/14-A	Lab Control Sample	Total/NA	Solid	7470A	760626

General Chemistry

Analysis Batch: 759941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	9045D	

General Chemistry (Continued)

Analysis Batch: 759941 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-759941/6	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-759941/7	Lab Control Sample Dup	Total/NA	Solid	9045D	

Analysis Batch: 759991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	Moisture	
500-247710-1 DU	HP-2	Total/NA	Solid	Moisture	

Surrogate Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-247710-1	HP-2	133 S1+	107	114	121
LCS 500-759040/4	Lab Control Sample	106	101	101	115
LCSD 500-759040/5	Lab Control Sample Dup	106	102	103	117
MB 500-759040/7	Method Blank	110	102	108	114

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-247710-1	HP-2	63	58	61	63	55	63
500-247710-1 MS	HP-2	63	63	69	60	70	68
500-247710-1 MSD	HP-2	63	62	66	61	65	65
LCS 500-759669/2-A	Lab Control Sample	85	85	86	88	79	87
MB 500-759669/1-A	Method Blank	81	85	84	87	74	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 500-759040/7
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0087		0.020	0.0087	mg/Kg			03/20/24 10:33	1
Benzene	<0.00051		0.0020	0.00051	mg/Kg			03/20/24 10:33	1
Bromodichloromethane	<0.00041		0.0020	0.00041	mg/Kg			03/20/24 10:33	1
Bromoform	<0.00058		0.0020	0.00058	mg/Kg			03/20/24 10:33	1
Bromomethane	<0.0019		0.0050	0.0019	mg/Kg			03/20/24 10:33	1
2-Butanone (MEK)	<0.0022		0.0050	0.0022	mg/Kg			03/20/24 10:33	1
Carbon disulfide	<0.0010		0.0050	0.0010	mg/Kg			03/20/24 10:33	1
Carbon tetrachloride	<0.00058		0.0020	0.00058	mg/Kg			03/20/24 10:33	1
Chlorobenzene	<0.00074		0.0020	0.00074	mg/Kg			03/20/24 10:33	1
Chloroform	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
cis-1,2-Dichloroethene	<0.00056		0.0020	0.00056	mg/Kg			03/20/24 10:33	1
Dibromochloromethane	<0.00065		0.0020	0.00065	mg/Kg			03/20/24 10:33	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.0050	0.0020	mg/Kg			03/20/24 10:33	1
1,2-Dibromoethane	<0.00076		0.0020	0.00076	mg/Kg			03/20/24 10:33	1
1,1-Dichloroethane	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
1,2-Dichloroethane	<0.0016		0.0050	0.0016	mg/Kg			03/20/24 10:33	1
1,1-Dichloroethene	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
1,2-Dichloropropane	<0.00052		0.0020	0.00052	mg/Kg			03/20/24 10:33	1
1,3-Dichloropropene, Total	<0.00070		0.0020	0.00070	mg/Kg			03/20/24 10:33	1
Ethylbenzene	<0.00096		0.0020	0.00096	mg/Kg			03/20/24 10:33	1
Methylene Chloride	<0.0020		0.0050	0.0020	mg/Kg			03/20/24 10:33	1
Methyl tert-butyl ether	<0.00059		0.0020	0.00059	mg/Kg			03/20/24 10:33	1
m&p-Xylene	<0.00063		0.0040	0.00063	mg/Kg			03/20/24 10:33	1
n-Butyl alcohol	<0.063		0.13	0.063	mg/Kg			03/20/24 10:33	1
o-Xylene	<0.00064		0.0020	0.00064	mg/Kg			03/20/24 10:33	1
Styrene	<0.00060		0.0020	0.00060	mg/Kg			03/20/24 10:33	1
Tetrachloroethene	<0.00068		0.0020	0.00068	mg/Kg			03/20/24 10:33	1
Toluene	<0.00051		0.0020	0.00051	mg/Kg			03/20/24 10:33	1
trans-1,2-Dichloroethene	<0.00089		0.0020	0.00089	mg/Kg			03/20/24 10:33	1
1,1,1-Trichloroethane	<0.00067		0.0020	0.00067	mg/Kg			03/20/24 10:33	1
1,1,2-Trichloroethane	<0.00086		0.0020	0.00086	mg/Kg			03/20/24 10:33	1
Trichloroethene	<0.00068		0.0020	0.00068	mg/Kg			03/20/24 10:33	1
Vinyl acetate	<0.0017		0.0050	0.0017	mg/Kg			03/20/24 10:33	1
Vinyl chloride	<0.00089		0.0020	0.00089	mg/Kg			03/20/24 10:33	1
Xylenes, Total	<0.00064		0.0040	0.00064	mg/Kg			03/20/24 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*75 - 131*		*03/20/24 10:33*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*03/20/24 10:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 134*		*03/20/24 10:33*	*1*
Toluene-d8 (Surr)	*114*		*75 - 124*		*03/20/24 10:33*	*1*

Lab Sample ID: LCS 500-759040/4
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acetone			0.0500	0.0341		mg/Kg		68	40 - 150		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-759040/4 **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759040

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0500	0.0452		mg/Kg		90	70 - 125
Bromodichloromethane	0.0500	0.0426		mg/Kg		85	67 - 129
Bromoform	0.0500	0.0476		mg/Kg		95	68 - 136
Bromomethane	0.0500	0.0440		mg/Kg		88	70 - 130
2-Butanone (MEK)	0.0500	0.0373		mg/Kg		75	47 - 138
Carbon disulfide	0.0500	0.0478		mg/Kg		96	70 - 129
Carbon tetrachloride	0.0500	0.0418		mg/Kg		84	75 - 125
Chlorobenzene	0.0500	0.0434		mg/Kg		87	50 - 150
Chloroform	0.0500	0.0475		mg/Kg		95	57 - 135
cis-1,2-Dichloroethene	0.0500	0.0439		mg/Kg		88	70 - 125
Dibromochloromethane	0.0500	0.0422		mg/Kg		84	69 - 125
1,2-Dibromo-3-Chloropropane	0.0500	0.0510		mg/Kg		102	60 - 136
1,2-Dibromoethane	0.0500	0.0460		mg/Kg		92	70 - 125
1,1-Dichloroethane	0.0500	0.0455		mg/Kg		91	70 - 125
1,2-Dichloroethane	0.0500	0.0430		mg/Kg		86	70 - 130
1,1-Dichloroethene	0.0500	0.0438		mg/Kg		88	70 - 120
1,2-Dichloropropane	0.0500	0.0445		mg/Kg		89	70 - 125
Ethylbenzene	0.0500	0.0458		mg/Kg		92	61 - 136
Methylene Chloride	0.0500	0.0438		mg/Kg		88	70 - 126
Methyl tert-butyl ether	0.0500	0.0517		mg/Kg		103	50 - 140
Styrene	0.0500	0.0483		mg/Kg		97	70 - 125
Tetrachloroethene	0.0500	0.0464		mg/Kg		93	70 - 124
Toluene	0.0500	0.0467		mg/Kg		93	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0441		mg/Kg		88	70 - 125
1,1,1-Trichloroethane	0.0500	0.0452		mg/Kg		90	70 - 128
1,1,2-Trichloroethane	0.0500	0.0452		mg/Kg		90	70 - 125
Trichloroethene	0.0500	0.0408		mg/Kg		82	70 - 125
Vinyl acetate	0.100	0.0970		mg/Kg		97	40 - 153
Vinyl chloride	0.0500	0.0451		mg/Kg		90	70 - 125
Xylenes, Total	0.100	0.0980		mg/Kg		98	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*101*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 134*
Toluene-d8 (Surr)	*115*		*75 - 124*

Lab Sample ID: LCSD 500-759040/5 **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759040

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	0.0500	0.0334		mg/Kg		67	40 - 150	2	30
Benzene	0.0500	0.0464		mg/Kg		93	70 - 125	3	30
Bromodichloromethane	0.0500	0.0428		mg/Kg		86	67 - 129	0	30
Bromoform	0.0500	0.0488		mg/Kg		98	68 - 136	2	30
Bromomethane	0.0500	0.0462		mg/Kg		92	70 - 130	5	30
2-Butanone (MEK)	0.0500	0.0370		mg/Kg		74	47 - 138	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 500-759040/5
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide	0.0500	0.0499		mg/Kg		100	70 - 129	4	30
Carbon tetrachloride	0.0500	0.0444		mg/Kg		89	75 - 125	6	30
Chlorobenzene	0.0500	0.0454		mg/Kg		91	50 - 150	4	30
Chloroform	0.0500	0.0498		mg/Kg		100	57 - 135	5	30
cis-1,2-Dichloroethene	0.0500	0.0454		mg/Kg		91	70 - 125	3	30
Dibromochloromethane	0.0500	0.0420		mg/Kg		84	69 - 125	1	30
1,2-Dibromo-3-Chloropropane	0.0500	0.0535		mg/Kg		107	60 - 136	5	30
1,2-Dibromoethane	0.0500	0.0472		mg/Kg		94	70 - 125	2	30
1,1-Dichloroethane	0.0500	0.0480		mg/Kg		96	70 - 125	5	30
1,2-Dichloroethane	0.0500	0.0427		mg/Kg		85	70 - 130	1	30
1,1-Dichloroethene	0.0500	0.0462		mg/Kg		92	70 - 120	5	30
1,2-Dichloropropane	0.0500	0.0464		mg/Kg		93	70 - 125	4	30
Ethylbenzene	0.0500	0.0469		mg/Kg		94	61 - 136	2	30
Methylene Chloride	0.0500	0.0463		mg/Kg		93	70 - 126	6	30
Methyl tert-butyl ether	0.0500	0.0527		mg/Kg		105	50 - 140	2	30
Styrene	0.0500	0.0490		mg/Kg		98	70 - 125	2	30
Tetrachloroethene	0.0500	0.0478		mg/Kg		96	70 - 124	3	30
Toluene	0.0500	0.0477		mg/Kg		95	70 - 125	2	30
trans-1,2-Dichloroethene	0.0500	0.0464		mg/Kg		93	70 - 125	5	30
1,1,1-Trichloroethane	0.0500	0.0471		mg/Kg		94	70 - 128	4	30
1,1,2-Trichloroethane	0.0500	0.0458		mg/Kg		92	70 - 125	1	30
Trichloroethene	0.0500	0.0418		mg/Kg		84	70 - 125	2	30
Vinyl acetate	0.100	0.0984		mg/Kg		98	40 - 153	1	30
Vinyl chloride	0.0500	0.0473		mg/Kg		95	70 - 125	5	30
Xylenes, Total	0.100	0.0991		mg/Kg		99	53 - 147	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*102*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 134*
Toluene-d8 (Surr)	*117*		*75 - 124*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0068		0.033	0.0068	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Acenaphthylene	<0.0056		0.033	0.0056	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Aldicarb	<0.33		0.67	0.33	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Anthracene	<0.0068		0.033	0.0068	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[a]anthracene	<0.0070		0.033	0.0070	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[a]pyrene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[b]fluoranthene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[g,h,i]perylene	<0.0072		0.033	0.0072	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzoic acid	<0.20		1.7	0.20	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[k]fluoranthene	<0.013		0.033	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	<0.015		0.17	0.015	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Bis(2-ethylhexyl) phthalate	<0.13		0.17	0.13	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Butyl benzyl phthalate	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Carbazole	<0.013		0.17	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Carbofuran	<0.17		0.67	0.17	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
4-Chloroaniline	<0.35		0.67	0.35	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2-Chlorophenol	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Chrysene	<0.0088		0.033	0.0088	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Dibenz(a,h)anthracene	<0.033		0.033	0.033	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,2-Dichlorobenzene	<0.014		0.17	0.014	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,4-Dichlorobenzene	<0.016		0.17	0.016	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
3,3'-Dichlorobenzidine	<0.027		0.17	0.027	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dichlorophenol	<0.012		0.33	0.012	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Diethyl phthalate	<0.015		0.17	0.015	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dimethylphenol	<0.074		0.33	0.074	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Di-n-butyl phthalate	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dinitrophenol	<0.19		0.67	0.19	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dinitrotoluene	<0.019		0.17	0.019	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,6-Dinitrotoluene	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Di-n-octyl phthalate	<0.23		0.33	0.23	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Fluoranthene	<0.0077		0.033	0.0077	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Fluorene	<0.0098		0.033	0.0098	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorobenzene	<0.0064		0.067	0.0064	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorobutadiene	<0.019		0.17	0.019	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorocyclopentadiene	<0.35		0.67	0.35	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachloroethane	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Indeno[1,2,3-cd]pyrene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Isophorone	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2-Methylphenol	<0.018		0.17	0.018	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Naphthalene	<0.0060		0.033	0.0060	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Nitrobenzene	<0.011		0.033	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
4-Nitrophenol	<0.12		0.67	0.12	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
N-Nitrosodi-n-propylamine	<0.0066		0.067	0.0066	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
N-Nitrosodiphenylamine	<0.020		0.17	0.020	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pentachlorophenol	<0.083		0.67	0.083	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Phenanthrene	<0.0072		0.033	0.0072	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Phenol	<0.014		0.17	0.014	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pyrene	<0.0091		0.033	0.0091	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pyridine	<0.22		0.67	0.22	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,2,4-Trichlorobenzene	<0.024		0.17	0.024	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4,5-Trichlorophenol	<0.013		0.33	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4,6-Trichlorophenol	<0.011		0.33	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*43 - 145*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
2-Fluorophenol	*85*		*31 - 166*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
Nitrobenzene-d5	*84*		*37 - 147*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
Phenol-d5	*87*		*30 - 153*	*03/24/24 16:00*	*03/25/24 10:57*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	*74*		*42 - 157*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
2,4,6-Tribromophenol	*78*		*31 - 143*	*03/24/24 16:00*	*03/25/24 10:57*	*1*

Lab Sample ID: LCS 500-759669/2-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	3.33	2.87		mg/Kg		86	63 - 109
Acenaphthylene	3.33	2.91		mg/Kg		87	61 - 115
Anthracene	3.33	3.10		mg/Kg		93	68 - 120
Benzo[a]anthracene	3.33	3.00		mg/Kg		90	70 - 121
Benzo[a]pyrene	3.33	3.19		mg/Kg		96	73 - 132
Benzo[b]fluoranthene	3.33	3.13		mg/Kg		94	68 - 123
Benzo[g,h,i]perylene	3.33	3.17		mg/Kg		95	65 - 126
Benzoic acid	3.33	1.17	J	mg/Kg		35	10 - 135
Benzo[k]fluoranthene	3.33	3.23		mg/Kg		97	64 - 128
Bis(2-chloroethyl)ether	3.33	2.84		mg/Kg		85	49 - 99
Bis(2-ethylhexyl) phthalate	3.33	3.43		mg/Kg		103	70 - 139
Butyl benzyl phthalate	3.33	3.32		mg/Kg		100	65 - 140
Carbazole	3.33	3.07		mg/Kg		92	68 - 120
4-Chloroaniline	3.33	2.37		mg/Kg		71	22 - 110
2-Chlorophenol	3.33	2.94		mg/Kg		88	50 - 102
Chrysene	3.33	3.09		mg/Kg		93	70 - 123
Dibenz(a,h)anthracene	3.33	3.23		mg/Kg		97	66 - 125
1,2-Dichlorobenzene	3.33	2.71		mg/Kg		81	47 - 94
1,4-Dichlorobenzene	3.33	2.70		mg/Kg		81	46 - 92
3,3'-Dichlorobenzidine	3.33	2.83		mg/Kg		85	36 - 131
2,4-Dichlorophenol	3.33	2.94		mg/Kg		88	51 - 109
Diethyl phthalate	3.33	3.06		mg/Kg		92	66 - 115
2,4-Dimethylphenol	3.33	2.71		mg/Kg		81	48 - 93
Di-n-butyl phthalate	3.33	3.29		mg/Kg		99	69 - 125
2,4-Dinitrophenol	6.67	4.63		mg/Kg		69	10 - 130
2,4-Dinitrotoluene	3.33	3.12		mg/Kg		94	65 - 120
2,6-Dinitrotoluene	3.33	3.06		mg/Kg		92	66 - 117
Di-n-octyl phthalate	3.33	3.46		mg/Kg		104	61 - 131
Fluoranthene	3.33	3.17		mg/Kg		95	66 - 123
Fluorene	3.33	3.00		mg/Kg		90	62 - 113
Hexachlorobenzene	3.33	3.11		mg/Kg		93	52 - 126
Hexachlorobutadiene	3.33	2.84		mg/Kg		85	42 - 103
Hexachlorocyclopentadiene	3.33	1.15		mg/Kg		34	10 - 100
Hexachloroethane	3.33	2.78		mg/Kg		83	45 - 95
Indeno[1,2,3-cd]pyrene	3.33	3.33		mg/Kg		100	66 - 131
Isophorone	3.33	2.96		mg/Kg		89	47 - 108
2-Methylphenol	3.33	2.87		mg/Kg		86	50 - 104
Naphthalene	3.33	2.85		mg/Kg		85	54 - 98
Nitrobenzene	3.33	2.97		mg/Kg		89	52 - 105
4-Nitrophenol	6.67	5.54		mg/Kg		83	45 - 126

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-759669/2-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-Nitrosodi-n-propylamine	3.33	3.29		mg/Kg		99	48 - 110
N-Nitrosodiphenylamine	3.33	3.06		mg/Kg		92	67 - 112
Pentachlorophenol	6.67	4.50		mg/Kg		67	32 - 128
Phenanthrene	3.33	3.02		mg/Kg		91	65 - 115
Phenol	3.33	3.07		mg/Kg		92	52 - 110
Pyrene	3.33	3.20		mg/Kg		96	71 - 128
Pyridine	6.67	3.25		mg/Kg		49	35 - 80
1,2,4-Trichlorobenzene	3.33	2.83		mg/Kg		85	49 - 100
2,4,5-Trichlorophenol	3.33	2.91		mg/Kg		87	48 - 121
2,4,6-Trichlorophenol	3.33	2.85		mg/Kg		85	50 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*43 - 145*
2-Fluorophenol	*85*		*31 - 166*
Nitrobenzene-d5	*86*		*37 - 147*
Phenol-d5	*88*		*30 - 153*
Terphenyl-d14	*79*		*42 - 157*
2,4,6-Tribromophenol	*87*		*31 - 143*

Lab Sample ID: 500-247710-1 MS
Matrix: Solid
Analysis Batch: 759952

Client Sample ID: HP-2
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	0.041	J F1	3.79	2.41	F1	mg/Kg	☼	62	65 - 124
Acenaphthylene	<0.013	F1	3.79	2.41	F1	mg/Kg	☼	63	68 - 120
Anthracene	0.15		3.79	3.02		mg/Kg	☼	75	70 - 114
Benzo[a]anthracene	0.49		3.79	3.43		mg/Kg	☼	78	67 - 122
Benzo[a]pyrene	0.50		3.79	3.14		mg/Kg	☼	70	65 - 133
Benzo[b]fluoranthene	0.70		3.79	3.65		mg/Kg	☼	78	69 - 129
Benzo[g,h,i]perylene	0.46	F1	3.79	2.86	F1	mg/Kg	☼	63	72 - 131
Benzoic acid	<0.46		3.79	1.68	J	mg/Kg	☼	44	10 - 100
Benzo[k]fluoranthene	0.31		3.79	3.21		mg/Kg	☼	76	68 - 127
Bis(2-chloroethyl)ether	<0.035		3.79	2.18		mg/Kg	☼	57	55 - 111
Bis(2-ethylhexyl) phthalate	<0.29		3.79	3.10		mg/Kg	☼	82	72 - 131
Butyl benzyl phthalate	<0.037		3.79	3.25		mg/Kg	☼	86	71 - 129
Carbazole	0.14	J	3.79	2.71		mg/Kg	☼	68	65 - 142
4-Chloroaniline	<0.79		3.79	1.67		mg/Kg	☼	44	30 - 150
2-Chlorophenol	<0.024	F1	3.79	2.40	F1	mg/Kg	☼	63	64 - 110
Chrysene	0.57		3.79	3.40		mg/Kg	☼	75	63 - 120
Dibenz(a,h)anthracene	0.095		3.79	3.40		mg/Kg	☼	87	64 - 131
1,2-Dichlorobenzene	<0.031	F1	3.79	2.00	F1	mg/Kg	☼	53	62 - 110
1,4-Dichlorobenzene	<0.036	F1	3.79	1.95	F1	mg/Kg	☼	51	61 - 110
3,3'-Dichlorobenzidine	<0.061		3.79	1.74		mg/Kg	☼	46	35 - 128
2,4-Dichlorophenol	<0.027		3.79	2.63		mg/Kg	☼	69	58 - 120
Diethyl phthalate	<0.034		3.79	2.60		mg/Kg	☼	69	58 - 120
2,4-Dimethylphenol	<0.17		3.79	2.31		mg/Kg	☼	61	60 - 110
Di-n-butyl phthalate	<0.024		3.79	3.10		mg/Kg	☼	82	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MS **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrophenol	<0.44	F1	7.59	<0.44	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	<0.043	F1	3.79	2.44	F1	mg/Kg	☼	64	69 - 124
2,6-Dinitrotoluene	<0.026	F1	3.79	2.58	F1	mg/Kg	☼	68	70 - 123
Di-n-octyl phthalate	<0.53		3.79	3.07		mg/Kg	☼	81	68 - 134
Fluoranthene	1.2		3.79	4.32		mg/Kg	☼	81	62 - 120
Fluorene	0.058	J	3.79	2.47		mg/Kg	☼	64	62 - 120
Hexachlorobenzene	<0.014		3.79	2.82		mg/Kg	☼	74	63 - 124
Hexachlorobutadiene	<0.042		3.79	2.50		mg/Kg	☼	66	56 - 120
Hexachlorocyclopentadiene	<0.80	F1	3.79	<0.80	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	<0.038	F1	3.79	1.52	F1	mg/Kg	☼	40	60 - 114
Indeno[1,2,3-cd]pyrene	0.41		3.79	4.84		mg/Kg	☼	117	68 - 130
Isophorone	<0.039		3.79	2.44		mg/Kg	☼	64	55 - 110
2-Methylphenol	<0.040		3.79	2.43		mg/Kg	☼	64	60 - 120
Naphthalene	0.037	J F1	3.79	2.32	F1	mg/Kg	☼	60	63 - 110
Nitrobenzene	<0.024		3.79	2.55		mg/Kg	☼	67	60 - 116
4-Nitrophenol	<0.28		7.59	3.25		mg/Kg	☼	43	30 - 122
N-Nitrosodi-n-propylamine	<0.015		3.79	2.39		mg/Kg	☼	63	56 - 118
N-Nitrosodiphenylamine	<0.045		3.79	2.84		mg/Kg	☼	75	65 - 112
Pentachlorophenol	<0.19		7.59	2.87		mg/Kg	☼	38	13 - 112
Phenanthrene	0.97		3.79	3.69		mg/Kg	☼	72	62 - 120
Phenol	<0.033		3.79	2.25		mg/Kg	☼	59	56 - 122
Pyrene	0.92		3.79	4.16		mg/Kg	☼	85	61 - 128
Pyridine	<0.49	F1	7.59	1.38	J F1	mg/Kg	☼	18	32 - 110
1,2,4-Trichlorobenzene	<0.054	F1	3.79	2.35	F1	mg/Kg	☼	62	66 - 117
2,4,5-Trichlorophenol	<0.028		3.79	2.51		mg/Kg	☼	66	50 - 120
2,4,6-Trichlorophenol	<0.026		3.79	2.48		mg/Kg	☼	65	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*43 - 145*
2-Fluorophenol	*63*		*31 - 166*
Nitrobenzene-d5	*69*		*37 - 147*
Phenol-d5	*60*		*30 - 153*
Terphenyl-d14	*70*		*42 - 157*
2,4,6-Tribromophenol	*68*		*31 - 143*

Lab Sample ID: 500-247710-1 MSD **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	0.041	J F1	3.83	2.45	F1	mg/Kg	☼	63	65 - 124	2	30
Acenaphthylene	<0.013	F1	3.83	2.38	F1	mg/Kg	☼	62	68 - 120	1	30
Anthracene	0.15		3.83	2.91		mg/Kg	☼	72	70 - 114	3	30
Benzo[a]anthracene	0.49		3.83	3.33		mg/Kg	☼	74	67 - 122	3	30
Benzo[a]pyrene	0.50		3.83	2.97		mg/Kg	☼	65	65 - 133	5	30
Benzo[b]fluoranthene	0.70		3.83	3.50		mg/Kg	☼	73	69 - 129	4	30
Benzo[g,h,i]perylene	0.46	F1	3.83	2.72	F1	mg/Kg	☼	59	72 - 131	5	30
Benzoic acid	<0.46		3.83	1.95	J	mg/Kg	☼	51	10 - 100	15	30

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MSD **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzo[k]fluoranthene	0.31		3.83	3.12		mg/Kg	☼	73	68 - 127	3	30
Bis(2-chloroethyl)ether	<0.035		3.83	2.20		mg/Kg	☼	58	55 - 111	1	30
Bis(2-ethylhexyl) phthalate	<0.29		3.83	3.00		mg/Kg	☼	78	72 - 131	3	30
Butyl benzyl phthalate	<0.037		3.83	3.14		mg/Kg	☼	82	71 - 129	4	30
Carbazole	0.14	J	3.83	2.61		mg/Kg	☼	65	65 - 142	4	30
4-Chloroaniline	<0.79		3.83	1.63		mg/Kg	☼	42	30 - 150	2	30
2-Chlorophenol	<0.024	F1	3.83	2.45		mg/Kg	☼	64	64 - 110	2	30
Chrysene	0.57		3.83	3.43		mg/Kg	☼	75	63 - 120	1	30
Dibenz(a,h)anthracene	0.095		3.83	3.26		mg/Kg	☼	83	64 - 131	4	30
1,2-Dichlorobenzene	<0.031	F1	3.83	1.89	F1	mg/Kg	☼	49	62 - 110	6	30
1,4-Dichlorobenzene	<0.036	F1	3.83	1.96	F1	mg/Kg	☼	51	61 - 110	1	30
3,3'-Dichlorobenzidine	<0.061		3.83	1.64		mg/Kg	☼	43	35 - 128	6	30
2,4-Dichlorophenol	<0.027		3.83	2.61		mg/Kg	☼	68	58 - 120	1	30
Diethyl phthalate	<0.034		3.83	2.50		mg/Kg	☼	65	58 - 120	4	30
2,4-Dimethylphenol	<0.17		3.83	2.29		mg/Kg	☼	60	60 - 110	1	30
Di-n-butyl phthalate	<0.024		3.83	3.01		mg/Kg	☼	79	65 - 120	3	30
2,4-Dinitrophenol	<0.44	F1	7.66	<0.44	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	<0.043	F1	3.83	2.42	F1	mg/Kg	☼	63	69 - 124	1	30
2,6-Dinitrotoluene	<0.026	F1	3.83	2.60	F1	mg/Kg	☼	68	70 - 123	1	30
Di-n-octyl phthalate	<0.53		3.83	2.95		mg/Kg	☼	77	68 - 134	4	30
Fluoranthene	1.2		3.83	4.41		mg/Kg	☼	82	62 - 120	2	30
Fluorene	0.058	J	3.83	2.47		mg/Kg	☼	63	62 - 120	0	30
Hexachlorobenzene	<0.014		3.83	2.66		mg/Kg	☼	69	63 - 124	6	30
Hexachlorobutadiene	<0.042		3.83	2.39		mg/Kg	☼	62	56 - 120	5	30
Hexachlorocyclopentadiene	<0.80	F1	3.83	<0.81	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	<0.038	F1	3.83	1.39	F1	mg/Kg	☼	36	60 - 114	9	30
Indeno[1,2,3-cd]pyrene	0.41		3.83	4.61		mg/Kg	☼	110	68 - 130	5	30
Isophorone	<0.039		3.83	2.45		mg/Kg	☼	64	55 - 110	0	30
2-Methylphenol	<0.040		3.83	2.34		mg/Kg	☼	61	60 - 120	4	30
Naphthalene	0.037	J F1	3.83	2.33	F1	mg/Kg	☼	60	63 - 110	1	30
Nitrobenzene	<0.024		3.83	2.54		mg/Kg	☼	66	60 - 116	1	30
4-Nitrophenol	<0.28		7.66	3.66		mg/Kg	☼	48	30 - 122	12	30
N-Nitrosodi-n-propylamine	<0.015		3.83	2.39		mg/Kg	☼	63	56 - 118	0	30
N-Nitrosodiphenylamine	<0.045		3.83	2.74		mg/Kg	☼	71	65 - 112	4	30
Pentachlorophenol	<0.19		7.66	3.11		mg/Kg	☼	41	13 - 112	8	30
Phenanthrene	0.97		3.83	3.72		mg/Kg	☼	72	62 - 120	1	30
Phenol	<0.033		3.83	2.26		mg/Kg	☼	59	56 - 122	0	30
Pyrene	0.92		3.83	4.22		mg/Kg	☼	86	61 - 128	2	30
Pyridine	<0.49	F1	7.66	1.22	J F1	mg/Kg	☼	16	32 - 110	12	30
1,2,4-Trichlorobenzene	<0.054	F1	3.83	2.32	F1	mg/Kg	☼	61	66 - 117	1	30
2,4,5-Trichlorophenol	<0.028		3.83	2.44		mg/Kg	☼	64	50 - 120	3	30
2,4,6-Trichlorophenol	<0.026		3.83	2.45		mg/Kg	☼	64	57 - 120	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*43 - 145*
2-Fluorophenol	*62*		*31 - 166*
Nitrobenzene-d5	*66*		*37 - 147*
Phenol-d5	*61*		*30 - 153*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MSD **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Terphenyl-d14	*65*		*42 - 157*
2,4,6-Tribromophenol	*65*		*31 - 143*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 500-759806/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760343 **Prep Batch: 759806**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.39		2.0	0.39	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Arsenic	<0.34		1.0	0.34	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Barium	<0.11		1.0	0.11	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Beryllium	<0.093		0.40	0.093	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Boron	<0.47		5.0	0.47	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Cadmium	0.0655	J	0.20	0.036	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Calcium	49.4		20	3.4	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Chromium	<0.50		1.0	0.50	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Cobalt	<0.13		0.50	0.13	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Copper	<0.28		1.0	0.28	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Iron	11.1	J	20	10	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Lead	<0.23		0.50	0.23	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Magnesium	23.8		10	5.0	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Manganese	0.175	J	1.0	0.15	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Nickel	<0.29		1.0	0.29	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Potassium	<18		50	18	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Selenium	<0.59		1.0	0.59	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Silver	<0.13		0.50	0.13	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Sodium	<15		100	15	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Thallium	<0.50		1.0	0.50	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Vanadium	<0.12		0.50	0.12	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Zinc	<0.88		2.0	0.88	mg/Kg		03/25/24 09:44	03/28/24 01:25	1

Lab Sample ID: LCS 500-759806/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760343 **Prep Batch: 759806**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	45.1		mg/Kg		90	80 - 120
Arsenic	10.0	8.85		mg/Kg		89	80 - 120
Barium	200	184		mg/Kg		92	80 - 120
Beryllium	5.00	4.66		mg/Kg		93	80 - 120
Boron	100	82.2		mg/Kg		82	80 - 120
Cadmium	5.00	4.49		mg/Kg		90	80 - 120
Calcium	1000	925		mg/Kg		93	80 - 120
Chromium	20.0	19.4		mg/Kg		97	80 - 120
Cobalt	50.0	48.9		mg/Kg		98	80 - 120
Copper	25.0	24.0		mg/Kg		96	80 - 120
Iron	100	98.6		mg/Kg		99	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-759806/2-A
Matrix: Solid
Analysis Batch: 760343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	10.0	9.88		mg/Kg		99	80 - 120
Magnesium	1000	879		mg/Kg		88	80 - 120
Manganese	50.0	46.4		mg/Kg		93	80 - 120
Nickel	50.0	47.9		mg/Kg		96	80 - 120
Potassium	1000	943		mg/Kg		94	80 - 120
Selenium	10.0	8.47		mg/Kg		85	80 - 120
Silver	5.00	4.28		mg/Kg		86	80 - 120
Sodium	1000	920		mg/Kg		92	80 - 120
Thallium	10.0	9.13		mg/Kg		91	80 - 120
Vanadium	50.0	48.0		mg/Kg		96	80 - 120
Zinc	50.0	49.0		mg/Kg		98	80 - 120

Lab Sample ID: LCS 500-760071/2-A
Matrix: Solid
Analysis Batch: 760461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.105		mg/L		105	80 - 120
Barium	0.500	0.506		mg/L		101	80 - 120
Cadmium	0.0500	0.0494		mg/L		99	80 - 120
Chromium	0.200	0.186		mg/L		93	80 - 120
Selenium	0.100	0.108		mg/L		108	80 - 120

Lab Sample ID: LCS 500-760071/2-A
Matrix: Solid
Analysis Batch: 760585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.100	0.0914		mg/L		91	80 - 120
Silver	0.0500	0.0578		mg/L		116	80 - 120

Lab Sample ID: LB 500-759696/1-B
Matrix: Solid
Analysis Batch: 760461

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 760071

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		03/26/24 16:28	03/28/24 12:35	1
Barium	<0.050		0.50	0.050	mg/L		03/26/24 16:28	03/28/24 12:35	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		03/26/24 16:28	03/28/24 12:35	1
Chromium	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 12:35	1
Selenium	<0.020		0.050	0.020	mg/L		03/26/24 16:28	03/28/24 12:35	1

Lab Sample ID: LB 500-759696/1-B
Matrix: Solid
Analysis Batch: 760585

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 760071

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.050	0.0075	mg/L		03/26/24 16:28	03/28/24 20:22	1
Silver	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 20:22	1

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 500-760626/12-A
Matrix: Solid
Analysis Batch: 760921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 760626

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:10	1

Lab Sample ID: LCS 500-760626/14-A
Matrix: Solid
Analysis Batch: 760921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760626

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00201	0.00193		mg/L		96	80 - 120

Lab Sample ID: LB 500-759696/1-E
Matrix: Solid
Analysis Batch: 760921

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 760626

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:35	1

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-760395/12-A
Matrix: Solid
Analysis Batch: 760632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 760395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0088		0.017	0.0088	mg/Kg		03/28/24 15:45	03/29/24 08:44	1

Lab Sample ID: LCS 500-760395/13-A
Matrix: Solid
Analysis Batch: 760632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.164		mg/Kg		98	80 - 120

Method: Moisture - Percent Moisture

Lab Sample ID: 500-247710-1 DU
Matrix: Solid
Analysis Batch: 759991

Client Sample ID: HP-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13.1		13.3		%		0.9	20
Percent Solids	86.9		86.7		%		0.1	20

Lab Chronicle

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1
Date Collected: 03/18/24 12:00
Matrix: Solid
Date Received: 03/19/24 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	3010A			760071	MC	EET CHI	03/26/24 16:28 - 03/26/24 22:28 [1]
TCLP	Analysis	6010D		1	760585	SJ	EET CHI	03/28/24 21:31
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	3010A			760071	MC	EET CHI	03/26/24 16:28 - 03/26/24 22:28 [1]
TCLP	Analysis	6010D		1	760461	SJ	EET CHI	03/28/24 14:11
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	7470A			760626	MJG	EET CHI	03/29/24 11:50 - 03/29/24 13:50 [1]
TCLP	Analysis	7470A		1	760921	MJG	EET CHI	04/01/24 10:44
Total/NA	Analysis	9045D		1	759941	SO	EET CHI	03/25/24 15:01
Total/NA	Analysis	Moisture		1	759991	ER	EET CHI	03/26/24 10:12

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1
Date Collected: 03/18/24 12:00
Matrix: Solid
Date Received: 03/19/24 14:30
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			759034	WRE	EET CHI	03/19/24 17:51
Total/NA	Analysis	8260D		1	759040	EA	EET CHI	03/20/24 15:01
Total/NA	Prep	3546			759669	NC	EET CHI	03/24/24 16:00
Total/NA	Analysis	8270E		2	760145	JSB	EET CHI	03/27/24 15:13
Total/NA	Prep	3050B			759806	BDE	EET CHI	03/25/24 09:44 - 03/25/24 15:44 [1]
Total/NA	Analysis	6010D		1	760343	SJ	EET CHI	03/28/24 02:24
Total/NA	Prep	3050B			759806	BDE	EET CHI	03/25/24 09:44 - 03/25/24 15:44 [1]
Total/NA	Analysis	6010D		5	760451	SJ	EET CHI	03/28/24 13:24
Total/NA	Prep	7471B			760395	ER	EET CHI	03/28/24 15:45
Total/NA	Analysis	7471B		1	760632	MJG	EET CHI	03/29/24 09:49

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Laboratory: Eurofins Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2903	04-29-24
Georgia	State	N/A	04-29-24
Georgia (DW)	State	939	04-29-24
Hawaii	State	NA	04-29-24
Illinois	NELAP	IL00035	04-29-24
Indiana	State	C-IL-02	04-29-24
Iowa	State	082	05-01-24
Kansas	NELAP	E-10161	10-31-24
Kentucky (UST)	State	AI # 108083	04-29-24
Kentucky (WW)	State	KY90023	12-31-24
Louisiana (All)	NELAP	02046	06-30-24
Mississippi	State	NA	04-29-24
North Carolina (WW/SW)	State	291	12-31-24
North Dakota	State	R-194	04-29-24
Oklahoma	State	8908	08-31-24
South Carolina	State	77001003	04-29-24
USDA	US Federal Programs	P330-18-00018	03-30-26
Wisconsin	State	999580010	08-31-24
Wyoming	State	8TMS-Q	04-29-24

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Rahman Babur	Lab PM: Mockler, Diana J	Carrier Tracking No(s)	COC No
Client Contact: Rahman Babur	Phone: 219-427-2433	E-Mail: Diana Mockler@Eurofinset.com		Page: Page 1 of 1

Company: K & S Engineers Inc

Job #: 500-247710

Address: 9715 Kennedy Ave
City: Highland
State Zip: IN, 46322
Phone: 219-427-2433(Tel)
Email: rbabur@kandsengineers.com
Project Name: 13940 Water Main Program CCDD
Site: City of Joliet, IL

Due Date Requested:
TAT Requested (days):
PO #: Advance Payment Required
WO #:
Project #:
SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - Total VOCs	6010B - Total Metals (7 elements), 7471B - Total Mercury	8270 - Total SVOCs	6010 - TCLP RCRA Metals , 7470 - Mercury	pH, Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:					N					
HP-2	3/18/24	12 00	G	Solid			✓	✓	✓	✓	✓		Frozen 3-18-24 1 00pm

500-247710 COC

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Rahman Babur	3-18 24 2:30p	K&S	Chris Emerly	3.19.24 0900	EETA
2	Chris Emerly	3.19.24 1300	EETA	Jason Ozbolt	3/19/24 1300	EETA
3	Jason Ozbolt	3/19/24 1430	EETA	Rahman	03/19/24 1430	EETA

Custody Seals Intact: ∆ Yes ∆ No
Custody Seal No

Cooler Temperature(s) °C and Other Remarks: 0.9 -> 1.4

Login Sample Receipt Checklist

Client: K&S Engineers Inc.

Job Number: 500-247710-1

Login Number: 247710
List Number: 1
Creator: Schmidt, Kara

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Rahman Babur
K&S Engineers Inc.
9715 Kennedy Avenue
Highland, Indiana 46322

Generated 10/29/2024 3:29:09 PM Revision 1

JOB DESCRIPTION

13940 Water Main Program CCDD (HP-2)

JOB NUMBER

500-247710-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



Generated
10/29/2024 3:29:09 PM
Revision 1

Authorized for release by
Diana Mockler, Project Manager I
Diana.Mockler@et.eurofinsus.com
(219)252-7570

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Job Narrative
500-247710-1

Receipt
The sample was received on 3/19/2024 2:30 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

GC/MS VOA
Method 8260D: Surrogate recovery for the following sample was outside the upper control limit: HP-2 (500-247710-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270E: The continuing calibration verification (CCV) analyzed in 500-759784 was outside the method criteria for the following analyte(s): Di-n-octyl phthalate and N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-759784 was outside the method criteria for the following analyte(s): Benzoic acid and Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-759952 was outside the method criteria for the following analyte(s): Hexachlorocyclopentadiene, 4-Nitrophenol and Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in 500-759952 was outside the method criteria for the following analyte(s): Indeno[1,2,3-cd]pyrene and Nitrobenzene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The following samples were diluted due to the nature of the sample matrix: (500-247710-F-1-B MS) and (500-247710-F-1-C MSD). Elevated reporting limits (RLs) are provided.

Method 8270E: The continuing calibration verification (CCV) analyzed in batch 500-760145 was outside the method criteria for the following analyte(s): Hexachlorocyclopentadiene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) analyzed in 500-760145 was outside the method criteria for the following analyte(s): N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The following sample was diluted due to the nature of the sample matrix: HP-2 (500-247710-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.041	J F1	0.075	0.015	mg/Kg	2	☼	8270E	Total/NA
Anthracene	0.15		0.075	0.015	mg/Kg	2	☼	8270E	Total/NA
Benzo[a]anthracene	0.49		0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Benzo[a]pyrene	0.50		0.075	0.073	mg/Kg	2	☼	8270E	Total/NA
Benzo[b]fluoranthene	0.70		0.075	0.072	mg/Kg	2	☼	8270E	Total/NA
Benzo[g,h,i]perylene	0.46	F1	0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Benzo[k]fluoranthene	0.31		0.075	0.029	mg/Kg	2	☼	8270E	Total/NA
Carbazole	0.14	J	0.38	0.030	mg/Kg	2	☼	8270E	Total/NA
Chrysene	0.57		0.075	0.020	mg/Kg	2	☼	8270E	Total/NA
Dibenz(a,h)anthracene	0.095		0.075	0.075	mg/Kg	2	☼	8270E	Total/NA
Fluoranthene	1.2		0.075	0.017	mg/Kg	2	☼	8270E	Total/NA
Fluorene	0.058	J	0.075	0.022	mg/Kg	2	☼	8270E	Total/NA
Indeno[1,2,3-cd]pyrene	0.41		0.075	0.073	mg/Kg	2	☼	8270E	Total/NA
Naphthalene	0.037	J F1	0.075	0.014	mg/Kg	2	☼	8270E	Total/NA
Phenanthrene	0.97		0.075	0.016	mg/Kg	2	☼	8270E	Total/NA
Pyrene	0.92		0.075	0.021	mg/Kg	2	☼	8270E	Total/NA
Arsenic	8.5		0.54	0.18	mg/Kg	1	☼	6010D	Total/NA
Barium	85		2.7	0.31	mg/Kg	5	☼	6010D	Total/NA
Beryllium	1.7		0.22	0.050	mg/Kg	1	☼	6010D	Total/NA
Boron	40		2.7	0.25	mg/Kg	1	☼	6010D	Total/NA
Cadmium	1.0	B	0.11	0.019	mg/Kg	1	☼	6010D	Total/NA
Calcium	95000	B	54	9.2	mg/Kg	5	☼	6010D	Total/NA
Chromium	9.8		0.54	0.27	mg/Kg	1	☼	6010D	Total/NA
Cobalt	6.6		0.27	0.071	mg/Kg	1	☼	6010D	Total/NA
Copper	34		2.7	0.76	mg/Kg	5	☼	6010D	Total/NA
Iron	24000	B	54	28	mg/Kg	5	☼	6010D	Total/NA
Lead	44		1.4	0.62	mg/Kg	5	☼	6010D	Total/NA
Magnesium	49000	B	27	13	mg/Kg	5	☼	6010D	Total/NA
Manganese	350	B	0.54	0.078	mg/Kg	1	☼	6010D	Total/NA
Nickel	19		0.54	0.16	mg/Kg	1	☼	6010D	Total/NA
Potassium	990		27	9.6	mg/Kg	1	☼	6010D	Total/NA
Selenium	0.66		0.54	0.32	mg/Kg	1	☼	6010D	Total/NA
Silver	1.3	J	1.4	0.35	mg/Kg	5	☼	6010D	Total/NA
Sodium	770		54	8.0	mg/Kg	1	☼	6010D	Total/NA
Thallium	0.53	J	0.54	0.27	mg/Kg	1	☼	6010D	Total/NA
Vanadium	15		0.27	0.064	mg/Kg	1	☼	6010D	Total/NA
Zinc	250		1.1	0.47	mg/Kg	1	☼	6010D	Total/NA
Barium	0.56		0.50	0.050	mg/L	1		6010D	TCLP
Cadmium	0.0043	J	0.0050	0.0020	mg/L	1		6010D	TCLP
Mercury	0.048		0.019	0.010	mg/Kg	1	☼	7471B	Total/NA
pH	8.6		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CHI
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET CHI
6010D	Metals (ICP)	SW846	EET CHI
7470A	TCLP Mercury	SW846	EET CHI
7471B	Mercury (CVAA)	SW846	EET CHI
9045D	pH	SW846	EET CHI
Moisture	Percent Moisture	EPA	EET CHI
1311	TCLP Extraction	SW846	EET CHI
3010A	Preparation, Total Metals	SW846	EET CHI
3050B	Preparation, Metals	SW846	EET CHI
3546	Microwave Extraction	SW846	EET CHI
5035	Closed System Purge and Trap	SW846	EET CHI
7470A	Preparation, Mercury	SW846	EET CHI
7471B	Preparation, Mercury	SW846	EET CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-247710-1	HP-2	Solid	03/18/24 12:00	03/19/24 14:30

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Date Collected: 03/18/24 12:00
Date Received: 03/19/24 14:30

Lab Sample ID: 500-247710-1
Matrix: Solid
Percent Solids: 86.9

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0073		0.017	0.0073	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Benzene	<0.00043		0.0017	0.00043	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromodichloromethane	<0.00034		0.0017	0.00034	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromoform	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Bromomethane	<0.0016		0.0042	0.0016	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
2-Butanone (MEK)	<0.0019		0.0042	0.0019	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Carbon disulfide	<0.00087		0.0042	0.00087	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Carbon tetrachloride	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Chlorobenzene	<0.00062		0.0017	0.00062	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Chloroform	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
cis-1,2-Dichloroethene	<0.00047		0.0017	0.00047	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Dibromochloromethane	<0.00055		0.0017	0.00055	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dibromo-3-Chloropropane	<0.0017		0.0042	0.0017	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dibromoethane	<0.00064		0.0017	0.00064	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1-Dichloroethane	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dichloroethane	<0.0013		0.0042	0.0013	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1-Dichloroethene	<0.00058		0.0017	0.00058	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,2-Dichloropropane	<0.00043		0.0017	0.00043	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,3-Dichloropropene, Total	<0.00059		0.0017	0.00059	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Ethylbenzene	<0.00080		0.0017	0.00080	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Methylene Chloride	<0.0017		0.0042	0.0017	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Methyl tert-butyl ether	<0.00049		0.0017	0.00049	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
m&p-Xylene	<0.00053		0.0034	0.00053	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
n-Butyl alcohol	<0.053		0.11	0.053	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
o-Xylene	<0.00054		0.0017	0.00054	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Styrene	<0.00051		0.0017	0.00051	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Tetrachloroethene	<0.00057		0.0017	0.00057	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Toluene	<0.00042		0.0017	0.00042	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
trans-1,2-Dichloroethene	<0.00074		0.0017	0.00074	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1,1-Trichloroethane	<0.00056		0.0017	0.00056	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
1,1,2-Trichloroethane	<0.00072		0.0017	0.00072	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Trichloroethene	<0.00057		0.0017	0.00057	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Vinyl acetate	<0.0015		0.0042	0.0015	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Vinyl chloride	<0.00074		0.0017	0.00074	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1
Xylenes, Total	<0.00054		0.0034	0.00054	mg/Kg	☼	03/19/24 17:51	03/20/24 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*133*	*S1+*	*75 - 131*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
Dibromofluoromethane	*107*		*75 - 126*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 134*	*03/19/24 17:51*	*03/20/24 15:01*	*1*
Toluene-d8 (Surr)	*121*		*75 - 124*	*03/19/24 17:51*	*03/20/24 15:01*	*1*

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.041**	**J F1**	0.075	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Acenaphthylene	<0.013	F1	0.075	0.013	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Aldicarb	<0.75		1.5	0.75	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Anthracene	**0.15**		0.075	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[a]anthracene	**0.49**		0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[a]pyrene	**0.50**		0.075	0.073	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Date Collected: 03/18/24 12:00
Date Received: 03/19/24 14:30

Lab Sample ID: 500-247710-1
Matrix: Solid
Percent Solids: 86.9

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.70**		0.075	0.072	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[g,h,i]perylene	**0.46**	**F1**	0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzoic acid	<0.46		3.8	0.46	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Benzo[k]fluoranthene	**0.31**		0.075	0.029	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Bis(2-chloroethyl)ether	<0.035		0.38	0.035	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Bis(2-ethylhexyl) phthalate	<0.29		0.38	0.29	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Butyl benzyl phthalate	<0.037		0.38	0.037	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Carbazole	**0.14**	**J**	0.38	0.030	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Carbofuran	<0.38		1.5	0.38	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
4-Chloroaniline	<0.79		1.5	0.79	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2-Chlorophenol	<0.024	F1	0.38	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Chrysene	**0.57**		0.075	0.020	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Dibenz(a,h)anthracene	**0.095**		0.075	0.075	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,2-Dichlorobenzene	<0.031	F1	0.38	0.031	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,4-Dichlorobenzene	<0.036	F1	0.38	0.036	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
3,3'-Dichlorobenzidine	<0.061		0.38	0.061	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dichlorophenol	<0.027		0.75	0.027	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Diethyl phthalate	<0.034		0.38	0.034	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dimethylphenol	<0.17		0.75	0.17	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Di-n-butyl phthalate	<0.024		0.38	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dinitrophenol	<0.44	F1	1.5	0.44	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4-Dinitrotoluene	<0.043	F1	0.38	0.043	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,6-Dinitrotoluene	<0.026	F1	0.38	0.026	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Di-n-octyl phthalate	<0.53		0.75	0.53	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Fluoranthene	**1.2**		0.075	0.017	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Fluorene	**0.058**	**J**	0.075	0.022	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorobenzene	<0.014		0.15	0.014	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorobutadiene	<0.042		0.38	0.042	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachlorocyclopentadiene	<0.80	F1	1.5	0.80	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Hexachloroethane	<0.038	F1	0.38	0.038	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Indeno[1,2,3-cd]pyrene	**0.41**		0.075	0.073	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Isophorone	<0.039		0.38	0.039	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2-Methylphenol	<0.040		0.38	0.040	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Naphthalene	**0.037**	**J F1**	0.075	0.014	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Nitrobenzene	<0.024		0.075	0.024	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
4-Nitrophenol	<0.28		1.5	0.28	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
N-Nitrosodi-n-propylamine	<0.015		0.15	0.015	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
N-Nitrosodiphenylamine	<0.045		0.38	0.045	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pentachlorophenol	<0.19		1.5	0.19	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Phenanthrene	**0.97**		0.075	0.016	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Phenol	<0.033		0.38	0.033	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pyrene	**0.92**		0.075	0.021	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
Pyridine	<0.49	F1	1.5	0.49	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
1,2,4-Trichlorobenzene	<0.054	F1	0.38	0.054	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4,5-Trichlorophenol	<0.028		0.75	0.028	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2
2,4,6-Trichlorophenol	<0.026		0.75	0.026	mg/Kg	☼	03/24/24 16:00	03/27/24 15:13	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*63*		*43 - 145*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
2-Fluorophenol	*58*		*31 - 166*	*03/24/24 16:00*	*03/27/24 15:13*	*2*

Client Sample ID: HP-2 **Lab Sample ID: 500-247710-1**
Date Collected: 03/18/24 12:00 **Matrix: Solid**
Date Received: 03/19/24 14:30 **Percent Solids: 86.9**

Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*61*		*37 - 147*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
Phenol-d5	*63*		*30 - 153*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
Terphenyl-d14	*55*		*42 - 157*	*03/24/24 16:00*	*03/27/24 15:13*	*2*
2,4,6-Tribromophenol	*63*		*31 - 143*	*03/24/24 16:00*	*03/27/24 15:13*	*2*

Method: SW846 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.21		1.1	0.21	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Arsenic	**8.5**		0.54	0.18	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Barium	**85**		2.7	0.31	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Beryllium	**1.7**		0.22	0.050	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Boron	**40**		2.7	0.25	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Cadmium	**1.0**	**B**	0.11	0.019	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Calcium	**95000**	**B**	54	9.2	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Chromium	**9.8**		0.54	0.27	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Cobalt	**6.6**		0.27	0.071	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Copper	**34**		2.7	0.76	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Iron	**24000**	**B**	54	28	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Lead	**44**		1.4	0.62	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Magnesium	**49000**	**B**	27	13	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Manganese	**350**	**B**	0.54	0.078	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Nickel	**19**		0.54	0.16	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Potassium	**990**		27	9.6	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Selenium	**0.66**		0.54	0.32	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Silver	**1.3**	**J**	1.4	0.35	mg/Kg	☼	03/25/24 09:44	03/28/24 13:24	5
Sodium	**770**		54	8.0	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Thallium	**0.53**	**J**	0.54	0.27	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Vanadium	**15**		0.27	0.064	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1
Zinc	**250**		1.1	0.47	mg/Kg	☼	03/25/24 09:44	03/28/24 02:24	1

Method: SW846 6010D - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		03/26/24 16:28	03/28/24 14:11	1
Barium	**0.56**		0.50	0.050	mg/L		03/26/24 16:28	03/28/24 14:11	1
Cadmium	**0.0043**	**J**	0.0050	0.0020	mg/L		03/26/24 16:28	03/28/24 14:11	1
Chromium	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 14:11	1
Iron	<0.20		0.20	0.20	mg/L		03/26/24 16:28	03/28/24 21:31	1
Lead	<0.0075		0.050	0.0075	mg/L		03/26/24 16:28	03/28/24 21:31	1
Selenium	<0.020		0.050	0.020	mg/L		03/26/24 16:28	03/28/24 14:11	1
Silver	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 21:31	1

Method: SW846 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:44	1

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.048**		0.019	0.010	mg/Kg	☼	03/28/24 15:45	03/29/24 09:49	1

Client Sample Results

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2 **Lab Sample ID: 500-247710-1**
Date Collected: 03/18/24 12:00 **Matrix: Solid**
Date Received: 03/19/24 14:30 **Percent Solids: 86.9**

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 9045D)	8.6		0.2	0.2	SU			03/25/24 15:01	1
Percent Moisture (EPA Moisture)	13.1		0.1	0.1	%			03/26/24 10:12	1
Percent Solids (EPA Moisture)	86.9		0.1	0.1	%			03/26/24 10:12	1

Definitions/Glossary

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
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)
TNTC	Too Numerous To Count

GC/MS VOA

Prep Batch: 759034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	5035	

Analysis Batch: 759040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	8260D	759034
MB 500-759040/7	Method Blank	Total/NA	Solid	8260D	
LCS 500-759040/4	Lab Control Sample	Total/NA	Solid	8260D	
LCSD 500-759040/5	Lab Control Sample Dup	Total/NA	Solid	8260D	

GC/MS Semi VOA

Prep Batch: 759669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	3546	
MB 500-759669/1-A	Method Blank	Total/NA	Solid	3546	
LCS 500-759669/2-A	Lab Control Sample	Total/NA	Solid	3546	
500-247710-1 MS	HP-2	Total/NA	Solid	3546	
500-247710-1 MSD	HP-2	Total/NA	Solid	3546	

Analysis Batch: 759784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-759669/1-A	Method Blank	Total/NA	Solid	8270E	759669
LCS 500-759669/2-A	Lab Control Sample	Total/NA	Solid	8270E	759669

Analysis Batch: 759952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1 MS	HP-2	Total/NA	Solid	8270E	759669
500-247710-1 MSD	HP-2	Total/NA	Solid	8270E	759669

Analysis Batch: 760145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	8270E	759669

Metals

Leach Batch: 759696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	1311	
LB 500-759696/1-B	Method Blank	TCLP	Solid	1311	
LB 500-759696/1-E	Method Blank	TCLP	Solid	1311	

Prep Batch: 759806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	3050B	
MB 500-759806/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-759806/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Prep Batch: 760071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	3010A	759696
LB 500-759696/1-B	Method Blank	TCLP	Solid	3010A	759696
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Metals

Analysis Batch: 760343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	6010D	759806
MB 500-759806/1-A	Method Blank	Total/NA	Solid	6010D	759806
LCS 500-759806/2-A	Lab Control Sample	Total/NA	Solid	6010D	759806

Prep Batch: 760395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	7471B	
MB 500-760395/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-760395/13-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 760451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	6010D	759806

Analysis Batch: 760461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	6010D	760071
LB 500-759696/1-B	Method Blank	TCLP	Solid	6010D	760071
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	6010D	760071

Analysis Batch: 760585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	6010D	760071
LB 500-759696/1-B	Method Blank	TCLP	Solid	6010D	760071
LCS 500-760071/2-A	Lab Control Sample	Total/NA	Solid	6010D	760071

Prep Batch: 760626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	7470A	759696
LB 500-759696/1-E	Method Blank	TCLP	Solid	7470A	759696
MB 500-760626/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-760626/14-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 760632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	7471B	760395
MB 500-760395/12-A	Method Blank	Total/NA	Solid	7471B	760395
LCS 500-760395/13-A	Lab Control Sample	Total/NA	Solid	7471B	760395

Analysis Batch: 760921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	TCLP	Solid	7470A	760626
LB 500-759696/1-E	Method Blank	TCLP	Solid	7470A	760626
MB 500-760626/12-A	Method Blank	Total/NA	Solid	7470A	760626
LCS 500-760626/14-A	Lab Control Sample	Total/NA	Solid	7470A	760626

General Chemistry

Analysis Batch: 759941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	9045D	

General Chemistry (Continued)

Analysis Batch: 759941 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-759941/6	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-759941/7	Lab Control Sample Dup	Total/NA	Solid	9045D	

Analysis Batch: 759991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-247710-1	HP-2	Total/NA	Solid	Moisture	
500-247710-1 DU	HP-2	Total/NA	Solid	Moisture	

Surrogate Summary

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-247710-1	HP-2	133 S1+	107	114	121
LCS 500-759040/4	Lab Control Sample	106	101	101	115
LCSD 500-759040/5	Lab Control Sample Dup	106	102	103	117
MB 500-759040/7	Method Blank	110	102	108	114

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-247710-1	HP-2	63	58	61	63	55	63
500-247710-1 MS	HP-2	63	63	69	60	70	68
500-247710-1 MSD	HP-2	63	62	66	61	65	65
LCS 500-759669/2-A	Lab Control Sample	85	85	86	88	79	87
MB 500-759669/1-A	Method Blank	81	85	84	87	74	78

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 500-759040/7
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0087		0.020	0.0087	mg/Kg			03/20/24 10:33	1
Benzene	<0.00051		0.0020	0.00051	mg/Kg			03/20/24 10:33	1
Bromodichloromethane	<0.00041		0.0020	0.00041	mg/Kg			03/20/24 10:33	1
Bromoform	<0.00058		0.0020	0.00058	mg/Kg			03/20/24 10:33	1
Bromomethane	<0.0019		0.0050	0.0019	mg/Kg			03/20/24 10:33	1
2-Butanone (MEK)	<0.0022		0.0050	0.0022	mg/Kg			03/20/24 10:33	1
Carbon disulfide	<0.0010		0.0050	0.0010	mg/Kg			03/20/24 10:33	1
Carbon tetrachloride	<0.00058		0.0020	0.00058	mg/Kg			03/20/24 10:33	1
Chlorobenzene	<0.00074		0.0020	0.00074	mg/Kg			03/20/24 10:33	1
Chloroform	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
cis-1,2-Dichloroethene	<0.00056		0.0020	0.00056	mg/Kg			03/20/24 10:33	1
Dibromochloromethane	<0.00065		0.0020	0.00065	mg/Kg			03/20/24 10:33	1
1,2-Dibromo-3-Chloropropane	<0.0020		0.0050	0.0020	mg/Kg			03/20/24 10:33	1
1,2-Dibromoethane	<0.00076		0.0020	0.00076	mg/Kg			03/20/24 10:33	1
1,1-Dichloroethane	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
1,2-Dichloroethane	<0.0016		0.0050	0.0016	mg/Kg			03/20/24 10:33	1
1,1-Dichloroethene	<0.00069		0.0020	0.00069	mg/Kg			03/20/24 10:33	1
1,2-Dichloropropane	<0.00052		0.0020	0.00052	mg/Kg			03/20/24 10:33	1
1,3-Dichloropropene, Total	<0.00070		0.0020	0.00070	mg/Kg			03/20/24 10:33	1
Ethylbenzene	<0.00096		0.0020	0.00096	mg/Kg			03/20/24 10:33	1
Methylene Chloride	<0.0020		0.0050	0.0020	mg/Kg			03/20/24 10:33	1
Methyl tert-butyl ether	<0.00059		0.0020	0.00059	mg/Kg			03/20/24 10:33	1
m&p-Xylene	<0.00063		0.0040	0.00063	mg/Kg			03/20/24 10:33	1
n-Butyl alcohol	<0.063		0.13	0.063	mg/Kg			03/20/24 10:33	1
o-Xylene	<0.00064		0.0020	0.00064	mg/Kg			03/20/24 10:33	1
Styrene	<0.00060		0.0020	0.00060	mg/Kg			03/20/24 10:33	1
Tetrachloroethene	<0.00068		0.0020	0.00068	mg/Kg			03/20/24 10:33	1
Toluene	<0.00051		0.0020	0.00051	mg/Kg			03/20/24 10:33	1
trans-1,2-Dichloroethene	<0.00089		0.0020	0.00089	mg/Kg			03/20/24 10:33	1
1,1,1-Trichloroethane	<0.00067		0.0020	0.00067	mg/Kg			03/20/24 10:33	1
1,1,2-Trichloroethane	<0.00086		0.0020	0.00086	mg/Kg			03/20/24 10:33	1
Trichloroethene	<0.00068		0.0020	0.00068	mg/Kg			03/20/24 10:33	1
Vinyl acetate	<0.0017		0.0050	0.0017	mg/Kg			03/20/24 10:33	1
Vinyl chloride	<0.00089		0.0020	0.00089	mg/Kg			03/20/24 10:33	1
Xylenes, Total	<0.00064		0.0040	0.00064	mg/Kg			03/20/24 10:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*75 - 131*		*03/20/24 10:33*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*03/20/24 10:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 134*		*03/20/24 10:33*	*1*
Toluene-d8 (Surr)	*114*		*75 - 124*		*03/20/24 10:33*	*1*

Lab Sample ID: LCS 500-759040/4
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Acetone			0.0500	0.0341		mg/Kg		68	40 - 150		

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 500-759040/4
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.0500	0.0452		mg/Kg		90	70 - 125
Bromodichloromethane	0.0500	0.0426		mg/Kg		85	67 - 129
Bromoform	0.0500	0.0476		mg/Kg		95	68 - 136
Bromomethane	0.0500	0.0440		mg/Kg		88	70 - 130
2-Butanone (MEK)	0.0500	0.0373		mg/Kg		75	47 - 138
Carbon disulfide	0.0500	0.0478		mg/Kg		96	70 - 129
Carbon tetrachloride	0.0500	0.0418		mg/Kg		84	75 - 125
Chlorobenzene	0.0500	0.0434		mg/Kg		87	50 - 150
Chloroform	0.0500	0.0475		mg/Kg		95	57 - 135
cis-1,2-Dichloroethene	0.0500	0.0439		mg/Kg		88	70 - 125
Dibromochloromethane	0.0500	0.0422		mg/Kg		84	69 - 125
1,2-Dibromo-3-Chloropropane	0.0500	0.0510		mg/Kg		102	60 - 136
1,2-Dibromoethane	0.0500	0.0460		mg/Kg		92	70 - 125
1,1-Dichloroethane	0.0500	0.0455		mg/Kg		91	70 - 125
1,2-Dichloroethane	0.0500	0.0430		mg/Kg		86	70 - 130
1,1-Dichloroethene	0.0500	0.0438		mg/Kg		88	70 - 120
1,2-Dichloropropane	0.0500	0.0445		mg/Kg		89	70 - 125
Ethylbenzene	0.0500	0.0458		mg/Kg		92	61 - 136
Methylene Chloride	0.0500	0.0438		mg/Kg		88	70 - 126
Methyl tert-butyl ether	0.0500	0.0517		mg/Kg		103	50 - 140
Styrene	0.0500	0.0483		mg/Kg		97	70 - 125
Tetrachloroethene	0.0500	0.0464		mg/Kg		93	70 - 124
Toluene	0.0500	0.0467		mg/Kg		93	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0441		mg/Kg		88	70 - 125
1,1,1-Trichloroethane	0.0500	0.0452		mg/Kg		90	70 - 128
1,1,2-Trichloroethane	0.0500	0.0452		mg/Kg		90	70 - 125
Trichloroethene	0.0500	0.0408		mg/Kg		82	70 - 125
Vinyl acetate	0.100	0.0970		mg/Kg		97	40 - 153
Vinyl chloride	0.0500	0.0451		mg/Kg		90	70 - 125
Xylenes, Total	0.100	0.0980		mg/Kg		98	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*101*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 134*
Toluene-d8 (Surr)	*115*		*75 - 124*

Lab Sample ID: LCSD 500-759040/5
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	0.0500	0.0334		mg/Kg		67	40 - 150	2	30
Benzene	0.0500	0.0464		mg/Kg		93	70 - 125	3	30
Bromodichloromethane	0.0500	0.0428		mg/Kg		86	67 - 129	0	30
Bromoform	0.0500	0.0488		mg/Kg		98	68 - 136	2	30
Bromomethane	0.0500	0.0462		mg/Kg		92	70 - 130	5	30
2-Butanone (MEK)	0.0500	0.0370		mg/Kg		74	47 - 138	1	30

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 500-759040/5
Matrix: Solid
Analysis Batch: 759040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Carbon disulfide			0.0500	0.0499		mg/Kg		100	70 - 129	4	30
Carbon tetrachloride			0.0500	0.0444		mg/Kg		89	75 - 125	6	30
Chlorobenzene			0.0500	0.0454		mg/Kg		91	50 - 150	4	30
Chloroform			0.0500	0.0498		mg/Kg		100	57 - 135	5	30
cis-1,2-Dichloroethene			0.0500	0.0454		mg/Kg		91	70 - 125	3	30
Dibromochloromethane			0.0500	0.0420		mg/Kg		84	69 - 125	1	30
1,2-Dibromo-3-Chloropropane			0.0500	0.0535		mg/Kg		107	60 - 136	5	30
1,2-Dibromoethane			0.0500	0.0472		mg/Kg		94	70 - 125	2	30
1,1-Dichloroethane			0.0500	0.0480		mg/Kg		96	70 - 125	5	30
1,2-Dichloroethane			0.0500	0.0427		mg/Kg		85	70 - 130	1	30
1,1-Dichloroethene			0.0500	0.0462		mg/Kg		92	70 - 120	5	30
1,2-Dichloropropane			0.0500	0.0464		mg/Kg		93	70 - 125	4	30
Ethylbenzene			0.0500	0.0469		mg/Kg		94	61 - 136	2	30
Methylene Chloride			0.0500	0.0463		mg/Kg		93	70 - 126	6	30
Methyl tert-butyl ether			0.0500	0.0527		mg/Kg		105	50 - 140	2	30
Styrene			0.0500	0.0490		mg/Kg		98	70 - 125	2	30
Tetrachloroethene			0.0500	0.0478		mg/Kg		96	70 - 124	3	30
Toluene			0.0500	0.0477		mg/Kg		95	70 - 125	2	30
trans-1,2-Dichloroethene			0.0500	0.0464		mg/Kg		93	70 - 125	5	30
1,1,1-Trichloroethane			0.0500	0.0471		mg/Kg		94	70 - 128	4	30
1,1,2-Trichloroethane			0.0500	0.0458		mg/Kg		92	70 - 125	1	30
Trichloroethene			0.0500	0.0418		mg/Kg		84	70 - 125	2	30
Vinyl acetate			0.100	0.0984		mg/Kg		98	40 - 153	1	30
Vinyl chloride			0.0500	0.0473		mg/Kg		95	70 - 125	5	30
Xylenes, Total			0.100	0.0991		mg/Kg		99	53 - 147	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*102*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 134*
Toluene-d8 (Surr)	*117*		*75 - 124*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0068		0.033	0.0068	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Acenaphthylene	<0.0056		0.033	0.0056	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Aldicarb	<0.33		0.67	0.33	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Anthracene	<0.0068		0.033	0.0068	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[a]anthracene	<0.0070		0.033	0.0070	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[a]pyrene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[b]fluoranthene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[g,h,i]perylene	<0.0072		0.033	0.0072	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzoic acid	<0.20		1.7	0.20	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Benzo[k]fluoranthene	<0.013		0.033	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	<0.015		0.17	0.015	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Bis(2-ethylhexyl) phthalate	<0.13		0.17	0.13	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Butyl benzyl phthalate	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Carbazole	<0.013		0.17	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Carbofuran	<0.17		0.67	0.17	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
4-Chloroaniline	<0.35		0.67	0.35	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2-Chlorophenol	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Chrysene	<0.0088		0.033	0.0088	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Dibenz(a,h)anthracene	<0.033		0.033	0.033	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,2-Dichlorobenzene	<0.014		0.17	0.014	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,4-Dichlorobenzene	<0.016		0.17	0.016	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
3,3'-Dichlorobenzidine	<0.027		0.17	0.027	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dichlorophenol	<0.012		0.33	0.012	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Diethyl phthalate	<0.015		0.17	0.015	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dimethylphenol	<0.074		0.33	0.074	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Di-n-butyl phthalate	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dinitrophenol	<0.19		0.67	0.19	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4-Dinitrotoluene	<0.019		0.17	0.019	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,6-Dinitrotoluene	<0.011		0.17	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Di-n-octyl phthalate	<0.23		0.33	0.23	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Fluoranthene	<0.0077		0.033	0.0077	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Fluorene	<0.0098		0.033	0.0098	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorobenzene	<0.0064		0.067	0.0064	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorobutadiene	<0.019		0.17	0.019	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachlorocyclopentadiene	<0.35		0.67	0.35	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Hexachloroethane	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Indeno[1,2,3-cd]pyrene	<0.032		0.033	0.032	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Isophorone	<0.017		0.17	0.017	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2-Methylphenol	<0.018		0.17	0.018	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Naphthalene	<0.0060		0.033	0.0060	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Nitrobenzene	<0.011		0.033	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
4-Nitrophenol	<0.12		0.67	0.12	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
N-Nitrosodi-n-propylamine	<0.0066		0.067	0.0066	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
N-Nitrosodiphenylamine	<0.020		0.17	0.020	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pentachlorophenol	<0.083		0.67	0.083	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Phenanthrene	<0.0072		0.033	0.0072	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Phenol	<0.014		0.17	0.014	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pyrene	<0.0091		0.033	0.0091	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
Pyridine	<0.22		0.67	0.22	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
1,2,4-Trichlorobenzene	<0.024		0.17	0.024	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4,5-Trichlorophenol	<0.013		0.33	0.013	mg/Kg		03/24/24 16:00	03/25/24 10:57	1
2,4,6-Trichlorophenol	<0.011		0.33	0.011	mg/Kg		03/24/24 16:00	03/25/24 10:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*43 - 145*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
2-Fluorophenol	*85*		*31 - 166*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
Nitrobenzene-d5	*84*		*37 - 147*	*03/24/24 16:00*	*03/25/24 10:57*	*1*
Phenol-d5	*87*		*30 - 153*	*03/24/24 16:00*	*03/25/24 10:57*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-759669/1-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 759669

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		42 - 157	03/24/24 16:00	03/25/24 10:57	1
2,4,6-Tribromophenol	78		31 - 143	03/24/24 16:00	03/25/24 10:57	1

Lab Sample ID: LCS 500-759669/2-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	3.33	2.87		mg/Kg		86	63 - 109
Acenaphthylene	3.33	2.91		mg/Kg		87	61 - 115
Anthracene	3.33	3.10		mg/Kg		93	68 - 120
Benzo[a]anthracene	3.33	3.00		mg/Kg		90	70 - 121
Benzo[a]pyrene	3.33	3.19		mg/Kg		96	73 - 132
Benzo[b]fluoranthene	3.33	3.13		mg/Kg		94	68 - 123
Benzo[g,h,i]perylene	3.33	3.17		mg/Kg		95	65 - 126
Benzoic acid	3.33	1.17	J	mg/Kg		35	10 - 135
Benzo[k]fluoranthene	3.33	3.23		mg/Kg		97	64 - 128
Bis(2-chloroethyl)ether	3.33	2.84		mg/Kg		85	49 - 99
Bis(2-ethylhexyl) phthalate	3.33	3.43		mg/Kg		103	70 - 139
Butyl benzyl phthalate	3.33	3.32		mg/Kg		100	65 - 140
Carbazole	3.33	3.07		mg/Kg		92	68 - 120
4-Chloroaniline	3.33	2.37		mg/Kg		71	22 - 110
2-Chlorophenol	3.33	2.94		mg/Kg		88	50 - 102
Chrysene	3.33	3.09		mg/Kg		93	70 - 123
Dibenz(a,h)anthracene	3.33	3.23		mg/Kg		97	66 - 125
1,2-Dichlorobenzene	3.33	2.71		mg/Kg		81	47 - 94
1,4-Dichlorobenzene	3.33	2.70		mg/Kg		81	46 - 92
3,3'-Dichlorobenzidine	3.33	2.83		mg/Kg		85	36 - 131
2,4-Dichlorophenol	3.33	2.94		mg/Kg		88	51 - 109
Diethyl phthalate	3.33	3.06		mg/Kg		92	66 - 115
2,4-Dimethylphenol	3.33	2.71		mg/Kg		81	48 - 93
Di-n-butyl phthalate	3.33	3.29		mg/Kg		99	69 - 125
2,4-Dinitrophenol	6.67	4.63		mg/Kg		69	10 - 130
2,4-Dinitrotoluene	3.33	3.12		mg/Kg		94	65 - 120
2,6-Dinitrotoluene	3.33	3.06		mg/Kg		92	66 - 117
Di-n-octyl phthalate	3.33	3.46		mg/Kg		104	61 - 131
Fluoranthene	3.33	3.17		mg/Kg		95	66 - 123
Fluorene	3.33	3.00		mg/Kg		90	62 - 113
Hexachlorobenzene	3.33	3.11		mg/Kg		93	52 - 126
Hexachlorobutadiene	3.33	2.84		mg/Kg		85	42 - 103
Hexachlorocyclopentadiene	3.33	1.15		mg/Kg		34	10 - 100
Hexachloroethane	3.33	2.78		mg/Kg		83	45 - 95
Indeno[1,2,3-cd]pyrene	3.33	3.33		mg/Kg		100	66 - 131
Isophorone	3.33	2.96		mg/Kg		89	47 - 108
2-Methylphenol	3.33	2.87		mg/Kg		86	50 - 104
Naphthalene	3.33	2.85		mg/Kg		85	54 - 98
Nitrobenzene	3.33	2.97		mg/Kg		89	52 - 105
4-Nitrophenol	6.67	5.54		mg/Kg		83	45 - 126

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-759669/2-A
Matrix: Solid
Analysis Batch: 759784

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
N-Nitrosodi-n-propylamine	3.33	3.29		mg/Kg		99	48 - 110
N-Nitrosodiphenylamine	3.33	3.06		mg/Kg		92	67 - 112
Pentachlorophenol	6.67	4.50		mg/Kg		67	32 - 128
Phenanthrene	3.33	3.02		mg/Kg		91	65 - 115
Phenol	3.33	3.07		mg/Kg		92	52 - 110
Pyrene	3.33	3.20		mg/Kg		96	71 - 128
Pyridine	6.67	3.25		mg/Kg		49	35 - 80
1,2,4-Trichlorobenzene	3.33	2.83		mg/Kg		85	49 - 100
2,4,5-Trichlorophenol	3.33	2.91		mg/Kg		87	48 - 121
2,4,6-Trichlorophenol	3.33	2.85		mg/Kg		85	50 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*43 - 145*
2-Fluorophenol	*85*		*31 - 166*
Nitrobenzene-d5	*86*		*37 - 147*
Phenol-d5	*88*		*30 - 153*
Terphenyl-d14	*79*		*42 - 157*
2,4,6-Tribromophenol	*87*		*31 - 143*

Lab Sample ID: 500-247710-1 MS
Matrix: Solid
Analysis Batch: 759952

Client Sample ID: HP-2
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	0.041	J F1	3.79	2.41	F1	mg/Kg	☼	62	65 - 124
Acenaphthylene	<0.013	F1	3.79	2.41	F1	mg/Kg	☼	63	68 - 120
Anthracene	0.15		3.79	3.02		mg/Kg	☼	75	70 - 114
Benzo[a]anthracene	0.49		3.79	3.43		mg/Kg	☼	78	67 - 122
Benzo[a]pyrene	0.50		3.79	3.14		mg/Kg	☼	70	65 - 133
Benzo[b]fluoranthene	0.70		3.79	3.65		mg/Kg	☼	78	69 - 129
Benzo[g,h,i]perylene	0.46	F1	3.79	2.86	F1	mg/Kg	☼	63	72 - 131
Benzoic acid	<0.46		3.79	1.68	J	mg/Kg	☼	44	10 - 100
Benzo[k]fluoranthene	0.31		3.79	3.21		mg/Kg	☼	76	68 - 127
Bis(2-chloroethyl)ether	<0.035		3.79	2.18		mg/Kg	☼	57	55 - 111
Bis(2-ethylhexyl) phthalate	<0.29		3.79	3.10		mg/Kg	☼	82	72 - 131
Butyl benzyl phthalate	<0.037		3.79	3.25		mg/Kg	☼	86	71 - 129
Carbazole	0.14	J	3.79	2.71		mg/Kg	☼	68	65 - 142
4-Chloroaniline	<0.79		3.79	1.67		mg/Kg	☼	44	30 - 150
2-Chlorophenol	<0.024	F1	3.79	2.40	F1	mg/Kg	☼	63	64 - 110
Chrysene	0.57		3.79	3.40		mg/Kg	☼	75	63 - 120
Dibenz(a,h)anthracene	0.095		3.79	3.40		mg/Kg	☼	87	64 - 131
1,2-Dichlorobenzene	<0.031	F1	3.79	2.00	F1	mg/Kg	☼	53	62 - 110
1,4-Dichlorobenzene	<0.036	F1	3.79	1.95	F1	mg/Kg	☼	51	61 - 110
3,3'-Dichlorobenzidine	<0.061		3.79	1.74		mg/Kg	☼	46	35 - 128
2,4-Dichlorophenol	<0.027		3.79	2.63		mg/Kg	☼	69	58 - 120
Diethyl phthalate	<0.034		3.79	2.60		mg/Kg	☼	69	58 - 120
2,4-Dimethylphenol	<0.17		3.79	2.31		mg/Kg	☼	61	60 - 110
Di-n-butyl phthalate	<0.024		3.79	3.10		mg/Kg	☼	82	65 - 120

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MS **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dinitrophenol	<0.44	F1	7.59	<0.44	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	<0.043	F1	3.79	2.44	F1	mg/Kg	☼	64	69 - 124
2,6-Dinitrotoluene	<0.026	F1	3.79	2.58	F1	mg/Kg	☼	68	70 - 123
Di-n-octyl phthalate	<0.53		3.79	3.07		mg/Kg	☼	81	68 - 134
Fluoranthene	1.2		3.79	4.32		mg/Kg	☼	81	62 - 120
Fluorene	0.058	J	3.79	2.47		mg/Kg	☼	64	62 - 120
Hexachlorobenzene	<0.014		3.79	2.82		mg/Kg	☼	74	63 - 124
Hexachlorobutadiene	<0.042		3.79	2.50		mg/Kg	☼	66	56 - 120
Hexachlorocyclopentadiene	<0.80	F1	3.79	<0.80	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	<0.038	F1	3.79	1.52	F1	mg/Kg	☼	40	60 - 114
Indeno[1,2,3-cd]pyrene	0.41		3.79	4.84		mg/Kg	☼	117	68 - 130
Isophorone	<0.039		3.79	2.44		mg/Kg	☼	64	55 - 110
2-Methylphenol	<0.040		3.79	2.43		mg/Kg	☼	64	60 - 120
Naphthalene	0.037	J F1	3.79	2.32	F1	mg/Kg	☼	60	63 - 110
Nitrobenzene	<0.024		3.79	2.55		mg/Kg	☼	67	60 - 116
4-Nitrophenol	<0.28		7.59	3.25		mg/Kg	☼	43	30 - 122
N-Nitrosodi-n-propylamine	<0.015		3.79	2.39		mg/Kg	☼	63	56 - 118
N-Nitrosodiphenylamine	<0.045		3.79	2.84		mg/Kg	☼	75	65 - 112
Pentachlorophenol	<0.19		7.59	2.87		mg/Kg	☼	38	13 - 112
Phenanthrene	0.97		3.79	3.69		mg/Kg	☼	72	62 - 120
Phenol	<0.033		3.79	2.25		mg/Kg	☼	59	56 - 122
Pyrene	0.92		3.79	4.16		mg/Kg	☼	85	61 - 128
Pyridine	<0.49	F1	7.59	1.38	J F1	mg/Kg	☼	18	32 - 110
1,2,4-Trichlorobenzene	<0.054	F1	3.79	2.35	F1	mg/Kg	☼	62	66 - 117
2,4,5-Trichlorophenol	<0.028		3.79	2.51		mg/Kg	☼	66	50 - 120
2,4,6-Trichlorophenol	<0.026		3.79	2.48		mg/Kg	☼	65	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*43 - 145*
2-Fluorophenol	*63*		*31 - 166*
Nitrobenzene-d5	*69*		*37 - 147*
Phenol-d5	*60*		*30 - 153*
Terphenyl-d14	*70*		*42 - 157*
2,4,6-Tribromophenol	*68*		*31 - 143*

Lab Sample ID: 500-247710-1 MSD **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	0.041	J F1	3.83	2.45	F1	mg/Kg	☼	63	65 - 124	2	30
Acenaphthylene	<0.013	F1	3.83	2.38	F1	mg/Kg	☼	62	68 - 120	1	30
Anthracene	0.15		3.83	2.91		mg/Kg	☼	72	70 - 114	3	30
Benzo[a]anthracene	0.49		3.83	3.33		mg/Kg	☼	74	67 - 122	3	30
Benzo[a]pyrene	0.50		3.83	2.97		mg/Kg	☼	65	65 - 133	5	30
Benzo[b]fluoranthene	0.70		3.83	3.50		mg/Kg	☼	73	69 - 129	4	30
Benzo[g,h,i]perylene	0.46	F1	3.83	2.72	F1	mg/Kg	☼	59	72 - 131	5	30
Benzoic acid	<0.46		3.83	1.95	J	mg/Kg	☼	51	10 - 100	15	30

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MSD
Matrix: Solid
Analysis Batch: 759952

Client Sample ID: HP-2
Prep Type: Total/NA
Prep Batch: 759669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzo[k]fluoranthene	0.31		3.83	3.12		mg/Kg	☼	73	68 - 127	3	30
Bis(2-chloroethyl)ether	<0.035		3.83	2.20		mg/Kg	☼	58	55 - 111	1	30
Bis(2-ethylhexyl) phthalate	<0.29		3.83	3.00		mg/Kg	☼	78	72 - 131	3	30
Butyl benzyl phthalate	<0.037		3.83	3.14		mg/Kg	☼	82	71 - 129	4	30
Carbazole	0.14	J	3.83	2.61		mg/Kg	☼	65	65 - 142	4	30
4-Chloroaniline	<0.79		3.83	1.63		mg/Kg	☼	42	30 - 150	2	30
2-Chlorophenol	<0.024	F1	3.83	2.45		mg/Kg	☼	64	64 - 110	2	30
Chrysene	0.57		3.83	3.43		mg/Kg	☼	75	63 - 120	1	30
Dibenz(a,h)anthracene	0.095		3.83	3.26		mg/Kg	☼	83	64 - 131	4	30
1,2-Dichlorobenzene	<0.031	F1	3.83	1.89	F1	mg/Kg	☼	49	62 - 110	6	30
1,4-Dichlorobenzene	<0.036	F1	3.83	1.96	F1	mg/Kg	☼	51	61 - 110	1	30
3,3'-Dichlorobenzidine	<0.061		3.83	1.64		mg/Kg	☼	43	35 - 128	6	30
2,4-Dichlorophenol	<0.027		3.83	2.61		mg/Kg	☼	68	58 - 120	1	30
Diethyl phthalate	<0.034		3.83	2.50		mg/Kg	☼	65	58 - 120	4	30
2,4-Dimethylphenol	<0.17		3.83	2.29		mg/Kg	☼	60	60 - 110	1	30
Di-n-butyl phthalate	<0.024		3.83	3.01		mg/Kg	☼	79	65 - 120	3	30
2,4-Dinitrophenol	<0.44	F1	7.66	<0.44	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	<0.043	F1	3.83	2.42	F1	mg/Kg	☼	63	69 - 124	1	30
2,6-Dinitrotoluene	<0.026	F1	3.83	2.60	F1	mg/Kg	☼	68	70 - 123	1	30
Di-n-octyl phthalate	<0.53		3.83	2.95		mg/Kg	☼	77	68 - 134	4	30
Fluoranthene	1.2		3.83	4.41		mg/Kg	☼	82	62 - 120	2	30
Fluorene	0.058	J	3.83	2.47		mg/Kg	☼	63	62 - 120	0	30
Hexachlorobenzene	<0.014		3.83	2.66		mg/Kg	☼	69	63 - 124	6	30
Hexachlorobutadiene	<0.042		3.83	2.39		mg/Kg	☼	62	56 - 120	5	30
Hexachlorocyclopentadiene	<0.80	F1	3.83	<0.81	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	<0.038	F1	3.83	1.39	F1	mg/Kg	☼	36	60 - 114	9	30
Indeno[1,2,3-cd]pyrene	0.41		3.83	4.61		mg/Kg	☼	110	68 - 130	5	30
Isophorone	<0.039		3.83	2.45		mg/Kg	☼	64	55 - 110	0	30
2-Methylphenol	<0.040		3.83	2.34		mg/Kg	☼	61	60 - 120	4	30
Naphthalene	0.037	J F1	3.83	2.33	F1	mg/Kg	☼	60	63 - 110	1	30
Nitrobenzene	<0.024		3.83	2.54		mg/Kg	☼	66	60 - 116	1	30
4-Nitrophenol	<0.28		7.66	3.66		mg/Kg	☼	48	30 - 122	12	30
N-Nitrosodi-n-propylamine	<0.015		3.83	2.39		mg/Kg	☼	63	56 - 118	0	30
N-Nitrosodiphenylamine	<0.045		3.83	2.74		mg/Kg	☼	71	65 - 112	4	30
Pentachlorophenol	<0.19		7.66	3.11		mg/Kg	☼	41	13 - 112	8	30
Phenanthrene	0.97		3.83	3.72		mg/Kg	☼	72	62 - 120	1	30
Phenol	<0.033		3.83	2.26		mg/Kg	☼	59	56 - 122	0	30
Pyrene	0.92		3.83	4.22		mg/Kg	☼	86	61 - 128	2	30
Pyridine	<0.49	F1	7.66	1.22	J F1	mg/Kg	☼	16	32 - 110	12	30
1,2,4-Trichlorobenzene	<0.054	F1	3.83	2.32	F1	mg/Kg	☼	61	66 - 117	1	30
2,4,5-Trichlorophenol	<0.028		3.83	2.44		mg/Kg	☼	64	50 - 120	3	30
2,4,6-Trichlorophenol	<0.026		3.83	2.45		mg/Kg	☼	64	57 - 120	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*63*		*43 - 145*
2-Fluorophenol	*62*		*31 - 166*
Nitrobenzene-d5	*66*		*37 - 147*
Phenol-d5	*61*		*30 - 153*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-247710-1 MSD **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759952 **Prep Batch: 759669**

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Terphenyl-d14	*65*		*42 - 157*
2,4,6-Tribromophenol	*65*		*31 - 143*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 500-759806/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760343 **Prep Batch: 759806**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.39		2.0	0.39	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Arsenic	<0.34		1.0	0.34	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Barium	<0.11		1.0	0.11	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Beryllium	<0.093		0.40	0.093	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Boron	<0.47		5.0	0.47	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Cadmium	0.0655	J	0.20	0.036	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Calcium	49.4		20	3.4	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Chromium	<0.50		1.0	0.50	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Cobalt	<0.13		0.50	0.13	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Copper	<0.28		1.0	0.28	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Iron	11.1	J	20	10	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Lead	<0.23		0.50	0.23	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Magnesium	23.8		10	5.0	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Manganese	0.175	J	1.0	0.15	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Nickel	<0.29		1.0	0.29	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Potassium	<18		50	18	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Selenium	<0.59		1.0	0.59	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Silver	<0.13		0.50	0.13	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Sodium	<15		100	15	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Thallium	<0.50		1.0	0.50	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Vanadium	<0.12		0.50	0.12	mg/Kg		03/25/24 09:44	03/28/24 01:25	1
Zinc	<0.88		2.0	0.88	mg/Kg		03/25/24 09:44	03/28/24 01:25	1

Lab Sample ID: LCS 500-759806/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760343 **Prep Batch: 759806**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	50.0	45.1		mg/Kg		90	80 - 120
Arsenic	10.0	8.85		mg/Kg		89	80 - 120
Barium	200	184		mg/Kg		92	80 - 120
Beryllium	5.00	4.66		mg/Kg		93	80 - 120
Boron	100	82.2		mg/Kg		82	80 - 120
Cadmium	5.00	4.49		mg/Kg		90	80 - 120
Calcium	1000	925		mg/Kg		93	80 - 120
Chromium	20.0	19.4		mg/Kg		97	80 - 120
Cobalt	50.0	48.9		mg/Kg		98	80 - 120
Copper	25.0	24.0		mg/Kg		96	80 - 120
Iron	100	98.6		mg/Kg		99	80 - 120

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-759806/2-A
Matrix: Solid
Analysis Batch: 760343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 759806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	10.0	9.88		mg/Kg		99	80 - 120
Magnesium	1000	879		mg/Kg		88	80 - 120
Manganese	50.0	46.4		mg/Kg		93	80 - 120
Nickel	50.0	47.9		mg/Kg		96	80 - 120
Potassium	1000	943		mg/Kg		94	80 - 120
Selenium	10.0	8.47		mg/Kg		85	80 - 120
Silver	5.00	4.28		mg/Kg		86	80 - 120
Sodium	1000	920		mg/Kg		92	80 - 120
Thallium	10.0	9.13		mg/Kg		91	80 - 120
Vanadium	50.0	48.0		mg/Kg		96	80 - 120
Zinc	50.0	49.0		mg/Kg		98	80 - 120

Lab Sample ID: LCS 500-760071/2-A
Matrix: Solid
Analysis Batch: 760461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.105		mg/L		105	80 - 120
Barium	0.500	0.506		mg/L		101	80 - 120
Cadmium	0.0500	0.0494		mg/L		99	80 - 120
Chromium	0.200	0.186		mg/L		93	80 - 120
Selenium	0.100	0.108		mg/L		108	80 - 120

Lab Sample ID: LCS 500-760071/2-A
Matrix: Solid
Analysis Batch: 760585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 760071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.996		mg/L		100	80 - 120
Lead	0.100	0.0914		mg/L		91	80 - 120
Silver	0.0500	0.0578		mg/L		116	80 - 120

Lab Sample ID: LB 500-759696/1-B
Matrix: Solid
Analysis Batch: 760461

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 760071

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.010		0.050	0.010	mg/L		03/26/24 16:28	03/28/24 12:35	1
Barium	<0.050		0.50	0.050	mg/L		03/26/24 16:28	03/28/24 12:35	1
Cadmium	<0.0020		0.0050	0.0020	mg/L		03/26/24 16:28	03/28/24 12:35	1
Chromium	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 12:35	1
Selenium	<0.020		0.050	0.020	mg/L		03/26/24 16:28	03/28/24 12:35	1

Lab Sample ID: LB 500-759696/1-B
Matrix: Solid
Analysis Batch: 760585

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 760071

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.20		0.20	0.20	mg/L		03/26/24 16:28	03/28/24 20:22	1
Lead	<0.0075		0.050	0.0075	mg/L		03/26/24 16:28	03/28/24 20:22	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LB 500-759696/1-B **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 760585 **Prep Batch: 760071**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.010		0.025	0.010	mg/L		03/26/24 16:28	03/28/24 20:22	1

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 500-760626/12-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760921 **Prep Batch: 760626**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:10	1

Lab Sample ID: LCS 500-760626/14-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760921 **Prep Batch: 760626**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00201	0.00193		mg/L		96	80 - 120

Lab Sample ID: LB 500-759696/1-E **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: TCLP**
Analysis Batch: 760921 **Prep Batch: 760626**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		03/29/24 11:50	04/01/24 10:35	1

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-760395/12-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760632 **Prep Batch: 760395**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0088		0.017	0.0088	mg/Kg		03/28/24 15:45	03/29/24 08:44	1

Lab Sample ID: LCS 500-760395/13-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 760632 **Prep Batch: 760395**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.167	0.164		mg/Kg		98	80 - 120

Method: Moisture - Percent Moisture

Lab Sample ID: 500-247710-1 DU **Client Sample ID: HP-2**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 759991

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13.1		13.3		%		0.9	20
Percent Solids	86.9		86.7		%		0.1	20

Lab Chronicle

Client: K&S Engineers Inc.
Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1
Date Collected: 03/18/24 12:00
Matrix: Solid
Date Received: 03/19/24 14:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	3010A			760071	MC	EET CHI	03/26/24 16:28 - 03/26/24 22:28 [1]
TCLP	Analysis	6010D		1	760585	SJ	EET CHI	03/28/24 21:31
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	3010A			760071	MC	EET CHI	03/26/24 16:28 - 03/26/24 22:28 [1]
TCLP	Analysis	6010D		1	760461	SJ	EET CHI	03/28/24 14:11
TCLP	Leach	1311			759696		EET CHI	03/25/24 13:00 - 03/26/24 07:00 [1]
TCLP	Prep	7470A			760626	MJG	EET CHI	03/29/24 11:50 - 03/29/24 13:50 [1]
TCLP	Analysis	7470A		1	760921	MJG	EET CHI	04/01/24 10:44
Total/NA	Analysis	9045D		1	759941	SO	EET CHI	03/25/24 15:01
Total/NA	Analysis	Moisture		1	759991	ER	EET CHI	03/26/24 10:12

Client Sample ID: HP-2
Lab Sample ID: 500-247710-1
Date Collected: 03/18/24 12:00
Matrix: Solid
Date Received: 03/19/24 14:30
Percent Solids: 86.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			759034	WRE	EET CHI	03/19/24 17:51
Total/NA	Analysis	8260D		1	759040	EA	EET CHI	03/20/24 15:01
Total/NA	Prep	3546			759669	NC	EET CHI	03/24/24 16:00
Total/NA	Analysis	8270E		2	760145	JSB	EET CHI	03/27/24 15:13
Total/NA	Prep	3050B			759806	BDE	EET CHI	03/25/24 09:44 - 03/25/24 15:44 [1]
Total/NA	Analysis	6010D		1	760343	SJ	EET CHI	03/28/24 02:24
Total/NA	Prep	3050B			759806	BDE	EET CHI	03/25/24 09:44 - 03/25/24 15:44 [1]
Total/NA	Analysis	6010D		5	760451	SJ	EET CHI	03/28/24 13:24
Total/NA	Prep	7471B			760395	ER	EET CHI	03/28/24 15:45
Total/NA	Analysis	7471B		1	760632	MJG	EET CHI	03/29/24 09:49

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: K&S Engineers Inc. Job ID: 500-247710-1
Project/Site: 13940 Water Main Program CCDD (HP-2)

Laboratory: Eurofins Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2903	04-29-24
Georgia	State	N/A	04-29-24
Georgia (DW)	State	939	04-29-24
Hawaii	State	NA	04-29-24
Illinois	NELAP	IL00035	04-29-24
Indiana	State	C-IL-02	04-29-24
Iowa	State	082	05-01-24
Kansas	NELAP	E-10161	10-31-24
Kentucky (UST)	State	AI # 108083	04-29-24
Kentucky (WW)	State	KY90023	12-31-24
Louisiana (All)	NELAP	02046	06-30-24
Mississippi	State	NA	04-29-24
North Carolina (WW/SW)	State	291	08-01-24
North Dakota	State	R-194	04-29-24
Oklahoma	State	8908	08-31-24
South Carolina	State	77001003	04-29-24
USDA	US Federal Programs	P330-18-00018	03-30-26
Wisconsin	State	999580010	08-31-24
Wyoming	State	8TMS-Q	04-29-24

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Rahman Babur	Lab PM: Mockler, Diana J	Carrier Tracking No(s)	COC No
Client Contact: Rahman Babur	Phone: 219-427-2433	E-Mail: Diana Mockler@Eurofinset.com		Page: Page 1 of 1

Company: K & S Engineers Inc
Job #: 500-247710

Address: 9715 Kennedy Ave
City: Highland
State Zip: IN, 46322
Phone: 219-427-2433(Tel)
Email: rbabur@kandsengineers.com
Project Name: 13940 Water Main Program CCDD
Site: City of Joliet, IL

Due Date Requested:
TAT Requested (days):
PO #: Advance Payment Required
WO #:
Project #:
SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - Total VOCs	6010B - Total Metals (7 elements), 7471B - Total Mercury	8270 - Total SVOCs	6010 - TCLP RCRA Metals , 7470 - Mercury	pH, Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:					N					
HP-2	3/18/24	12 00	G	Solid			✓	✓	✓	✓	✓		Frozen 3-18-24 1 00pm

500-247710 COC

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: Rahman Babur	3-18 24 2:30p	K&S	Received by: Chris Emerick	3.19.24 0900	EETA
Relinquished by: Chris Emerick	3.19.24 1300	EETA	Received by: Joseph Schenck	3/19/24 1300	EETA
Relinquished by: Joseph Schenck	3/19/24 1430	EETA	Received by: Rahman	03/19/24 1430	EETA

Custody Seals Intact: ∆ Yes ∆ No
Custody Seal No
Cooler Temperature(s) °C and Other Remarks: 0.9 -> 1.4

Login Sample Receipt Checklist

Client: K&S Engineers Inc.

Job Number: 500-247710-1

Login Number: 247710
List Number: 1
Creator: Schmidt, Kara

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment D

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: 2025 Water Main Program Office Phone Number, if available: (219) 924-5231

Physical Site Location (address, incldluding number and street):
E Washington Street

City: Joliet State: IL Zip Code: 60433

County: Will Township: Joliet

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

Latitude: 41.545926° (Decimal Degrees) Longitude: -88.068749° (-Decimal Degrees)

Identify how the lat/long data were determined:

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

Google Earth

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

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	City Of Joliet	Name:	City Of Joliet
Street Address:	150 West Jefferson Street	Street Address:	150 West Jefferson Street
PO Box:		PO Box:	
City:	Joliet State: IL	City:	Joliet State: IL
Zip Code:	60433 Phone: (815) 724-4220	Zip Code:	60433 Phone: (815) 724-4220
Contact:	Ryan Y. Liang	Contact:	Ryan Y. Liang
Email, if available:	rliang@joliet.gov	Email, if available:	rliang@joliet.gov

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: 2025 Water Main Program

Latitude: 41.545926° Longitude: - 88.068749°

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)]:

One soil sample was collected at location HP-2 as shown in Attachment A

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 pH conducted revealed a value of 8.6. All the values were below the MAC standards except for Iron. Therefore, a Toxicity Characteristic Leaching Procedure (TCLP) in Barium, Cadmium and Iron was analyzed for compliance verification. The results were below the TACO Class I and Class II.

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

I, Dibakar Sundi (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: K&S Engineers Inc.

Street Address: 9715 Kennedy Avenue

City: Highland State: IL Zip Code: 46322

Phone: (219) 924-5231

Dibakar Sundi
Printed Name:

Licensed Professional Engineer or
Licensed Professional Geologist Signature:

11/04/2024
Date:

DIBAKAR SUNDI 062-038979 LICENSED PROFESSIONAL ENGINEER STATE OF ILLINOIS

P.E. or L.P.G. Seal:

APPENDIX E

CANADIAN NATIONAL RAILWAY CROSSING REQUIREMENTS

BAXTER & WOODMAN Consulting Engineers

V. Underground Utility Requirements

If underground utility is greater in diameter than 10" including any casing protection, the requirements in the Section VI (immediately following this section) are required.

1. General Underground Utilities Requirements

a. CN's operations are not to be impaired or affected by any utility work.
   i. Flagging protection during construction will be required and may be expanded by local supervisors to include any work on, under, over, or near Railroad property.

b. All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have, at a minimum, safety certification with www.contractororientation.com or an eRailsafe badge which has the CN logo on it. The railroad representative will be responsible for verifying and documenting said certifications.
   i. Applicant must compile an Emergency Action Plan per OSHA which incorporates the proper Railroad contact information. Identify and list an adequate amount of properly trained employees to be able to enter CN property to respond to an emergency situation.

c. On projects which have the potential to encroach or effect the operations to CN's property, it is required of the contractor to post informational documents at the jobsite for the benefit of the construction workers, CN personal, and the general public. The following required information is to be posted on a bulletin board. The bulletin board shall be weatherproof and watertight and be located in an area readily accessible to both CN and the general public.
   i. Project overview: Including a general work description, job site location address, and approximate duration of the project
   ii. Owner / Applicants Information
   iii. Contractor's Designated points of contact: Including the Safety Officer, Superintendent, and 24-hour contact number
   iv. Copies of reviewed drawings by CN
   v. Copies of the Safety Action Plan
   vi. Copies of approved permits

d. Jacking or boring of corrugated metal pipe, cast iron pipe or pipe with flanges, bells or couplings will not be permitted.

e. Casing may need to be extended to accommodate any proposed projects for Railroad as required by CN Chief Engineer or the designated representative.

f. Soils investigation and a geotechnical report may be required.

g. All underground utilities shall have an adequate casing for protection.

h. Utilities shall not be placed within a culvert, under railroad bridges, nor closer than 100 feet to any portion of any railroad bridge, building, or other structure, except in special cases and be of special design as approved by the CN Chief Engineer or the designated representative.

i. Restoration and backfill compaction should conform to a 95% Proctor test suitable for the soil type at the site and commence in lifts specified by the CN Chief Engineer or the designated representative.

j. No excavation can be closer than 25 ft. from the centerline of the nearest track.

k. All utilities must be a minimum of 15 ft. horizontally away from any existing or planned CN signals and facilities, when practicable.

l. The zone of influence is as follows: Starting 15 feet from the centerline of nearest track at the base of rail, measured perpendicular to the track centerline, calculate a slope to the bottom of the proposed pipe at a 2H:1V slope. (See Section A-6)
   i. If a 2H: 1V slope cannot be maintained or more restrictive conditions occur, approved shoring will be required. (See Section A-7)
   ii. If shoring is required as stated above, a shoring plan designed to withstand E-80 loading shall be created, **stamped by a Professional Engineer**, and submitted to CN.
   iii. If the excavation is outside the zone of influence, then the excavation shall follow OSHA requirements.

m. A dewatering plan shall be created, **stamped by a Professional Engineer**, and submitted to CN as required by the CN Chief Engineer or the designated representative.

n. Dry Horizontal Directional Drilling (HDD) is only allowed.
   i. Mud slurry directional bore will be allowed only with the use of vents.
   ii. No wet directional drilling is allowed.

o. Vibrations Requirements
   i. If there are fiber optic cables buried within the ROW, the Contractor shall submit details on the type of equipment to be used for pile driving and estimate the vibrations that will be induced at ground level during operation.
   ii. The Contractor may be required to monitor vibrations levels during pile driving operations, for which the Contractor shall submit a procedure and the type of monitoring equipment to be used.
      - Induced vibrations shall be limited to a maximum peak particle velocity (PPV) of less than 3.5”/sec (measured in 3 mutually perpendicular directions taken at tie level / ground surface). And induced amplitude of movement shall be less than 1/128"
      - Vibrations undertaken within 150 ft. of fiber optic cables, induced vibrations shall be limited to a maximum of PPV of less than 1.5”/sec

p. During construction, the Applicant shall maintain positive drainage of Railroad property. After construction is completed, the Railroad's right-of-way shall be restored to its original condition and to the satisfaction of the Railroad. Any fencing removed to facilitate construction shall be restored.

q. Additional Resources for Underground Utilities:

http://www.undergroundfocus.com/onecalldir.php Provides links and information on state calls for cable locates
http://www.ntdpc.com/ National Telecommunications Damage Prevention Council
http://www.commongroundalliance.com Common Ground Alliance

2. Underground Utility Crossing Requirements

a. Utilities shall be located, where practicable, to cross tracks at approximately right angles but must not cross at an angle less than 45 degrees.
   i. Any utility crossing that is less than 45 degrees will be considered a longitudinal utility and may be subject to higher requirements as required by the CN Chief Engineer or the designated representative.

b. For all utility crossings the utility must be protected by a casing for the full width of CN's right-of-way or 50 ft. whichever is greater.
    i. All casing pipes shall be sloped not less than 0.3%.
    ii. Pipelines carrying commodities in a gaseous state are not required to have a steel casing as long as the top of the utility is at least 10 ft. below base of rail.
    iii. Fiber optic utilities do not need a steel casing if the depth is 15 ft. or greater below the base of rail.
c. Directional boring will be allowed at the discretion of the Railroad.
    i. If practicable, boring excavation must not exceed the outside diameter of the pipe.
        - Bore shall not be greater than 1" larger than the utility diameter. Any over-cut by the cutting head should be minimized to match the pipe being installed. Any overcut shall be no more than 2" larger than the installed pipeline. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe (plus coating) by more than approximately 1 inch then grouting or other methods will be employed as approved by CN.
d. Minimum depth of burial below:
    i. Dry jack and Bore
        - Main Tracks Base of Rail = 6 ft.
        - Industrial Tracks Base of Rail = 6 ft.
        - Road Surface = 5 ft.
        - Ditch Bottom = 5 ft.
    ii. Uncased Utility
        - Main Tracks Base of Rail = 10 ft.
        - Industrial Tracks Base of Rail = 10 ft.
        - Road Surface = 6 ft.
        - Ditch Bottom = 6 ft.
    iii. Directional Bore
        - Main Tracks Base of Rail = 15 ft.
        - Industrial Tracks Base of Rail = 15 ft.
        - Road Surface = 6 ft.
        - Ditch Bottom = 6 ft.
e. Multiple Crossings – Refer to AREMA Standard 4.19.8 multiple installations. Each crossing should be permitted separately.
f. Any excavation must not be located on CN right-of-way or within a minimum of 50 ft. from the centerline of track, whichever is greater.
g. Warning, utility markers shall be installed at any intersection of any utility and CN right-of-way.
    i. Marker should show accurate owner, contact, and CN Agreement Number.

3. Longitudinal Underground Utility Requirements

a. Underground utilities laid longitudinally in railroad right-of-way shall be located as far as practicable from any tracks or other important structures.
b. Longitudinal lines must be a minimum of 25 ft. from the center line of track, or outside the track embankment section, whichever is greater.

c. Uncased steel carrier pipe utilities laid longitudinally on the railroad right-of-way, 25 ft. to 50 ft. from the center line of the nearest rail shall be buried not less than 6 ft. from the natural ground surface to the top of pipe. If distance is more than 50 ft. from centerline of track, minimum cover shall be 5 ft.
    i. At all locations on the right-of-way farther than 25 ft. away from the centerline of the nearest track, the minimum natural ground cover for uncased steel natural gas pipes must be 6 ft.
d. Plastic carrier pipes are not allowed for longitudinal utilities on CN right-of-way.
e. Longitudinal underground utilities must be marked by a sign approved by the CN Chief Engineer or the designated representative every 500 ft., at every road crossing, streambed, other utility crossing, and at locations of major change in direction of the line.
    i. Marker should show accurate owner, contact, and CN Agreement Number.

(REMAINDER OF PAGE INTENTIONALLY LEFT BLANK)

VI. Additional Requirements for Underground Utilities with Diameter of 10 Inches or Greater (Including Casing)

1. Drawings shall be **stamped, signed, and dated** by a Professional Engineer licensed in the State where the work is being performed. CN reserves the right to prohibit a certain construction methodology, at its own discretion; however, CN shall not assume any responsibility for the suitability of the accepted method. Open cut methodology shall only be considered where other installation techniques are deemed impractical and where rail traffic volumes are low. Installations using water jet methods shall not be permitted.

2. Complete Subsurface Investigation
    a. Boreholes are required at each end of the crossing and at each entry/exit pit with a maximum spacing between boreholes of 150 ft.
    b. The boreholes shall be drilled to a depth of 20 ft. below the proposed crossing depth or to 20 ft. below the maximum feasible crossing depth if the proposed crossing depth has not yet been determined.
    c. Soils samples shall be obtained at 3 ft. intervals to a depth of 15 ft. and also within the proposed utility horizon (i.e., from at least 7 ft. or one pipe/casing diameter above the proposed utility obvert to at least 7 ft. or one pipe/casing diameter below the proposed utility invert). At other depths, soil samples may be obtained at 5 ft. intervals; No boreholes will be completed between ties or tracks in double track territory.
    d. If bedrock is encountered at the proposed location, the bedrock will be cored to establish the competency and engineering characteristics of the bedrock. The bedrock shall be cored to at least 5 ft. below the invert of the proposed crossing.
    e. Soil classification testing (i.e., water content determination, Atterberg Limits testing and grain size distributions) shall be carried out on soil samples obtained from all major soil strata and on soil samples obtained from every layer that the proposed tunnel would intersect.
    f. The stabilized groundwater elevation must be established by installation of piezometer/monitoring well(s); at least one piezometer/monitoring well must be maintained in operation and checked prior to construction to confirm the groundwater elevation.

3. Submit a **stamped** Geotechnical Report prepared by a Licensed Geotechnical Engineer with experience in trenchless technology. The Report shall include:
    a. Comments and recommendations with respect to construction methodology
    b. An estimate of the expected extent and magnitude of ground movement over time
    c. Measures to be undertaken to preserve the safety of rail operations and the structural integrity of the track structure
    d. A detailed proposal for ground surface and subsurface monitoring
    e. Factual subsurface information with all field and laboratory test data
    f. A description of the site and soil stratigraphy including results of soil classification testing
    g. A plan of the proposed crossing with borehole/testing/installation locations
    h. A summary of groundwater conditions encountered during the investigation including the observed groundwater levels within the boreholes and the presence of any perched water levels at the borehole locations
    i. Anticipated settlements as well as an assessment of the anticipated settlement through configurations

j. A detailed monitoring plan to monitor any ground surface and subsurface movements during construction shall be provided. The Review and Alert (work stoppage) levels shall be provided
k. Submit a contingency plan and notification procedure to be implemented in the event of excessive/unexpected settlement or heave, and unforeseen changes in subsurface conditions, i.e. cobbles and boulders, raveling /flowing ground

4. Submit a Detailed Work Plan
    a. Details of the proposed methodology - the installation operations, methods of maintaining and adjusting line and grade, drilled/bored diameter, drill hole stabilization procedures, temporary dewatering measures and any mitigation procedures if sinkholes/settlement above the pipe occurs or excessive movement of the settlement monitors is observed.
    b. The design of the crossing - length, diameter and thickness of the casing, elevations of the crossing invert at both ends, excavation shoring details and methods of dealing with cobbles/boulders and obstructions.
    c. Provide additional details for specific installation methodologies as follows:
        i. Jack and Bore: size and location of the auger head relative to the casing, estimated jacking thrust required, method of monitoring casing elevation, thrust block design calculations, record keeping system to document casing advance and jacking pressures, bulk heading, and grouting procedures. Bore head should not extend more than 1" ahead of the casing.
        ii. HDD: slurry pressure and mitigation measures for frac-out if applicable. Vents shall be installed on each side of the track(s) to prevent frac-outs.
        iii. TBM: type of machine, methods of primary ground support, grouting between the casing, ribs and lagging (primary support) and the surrounding soil/rock

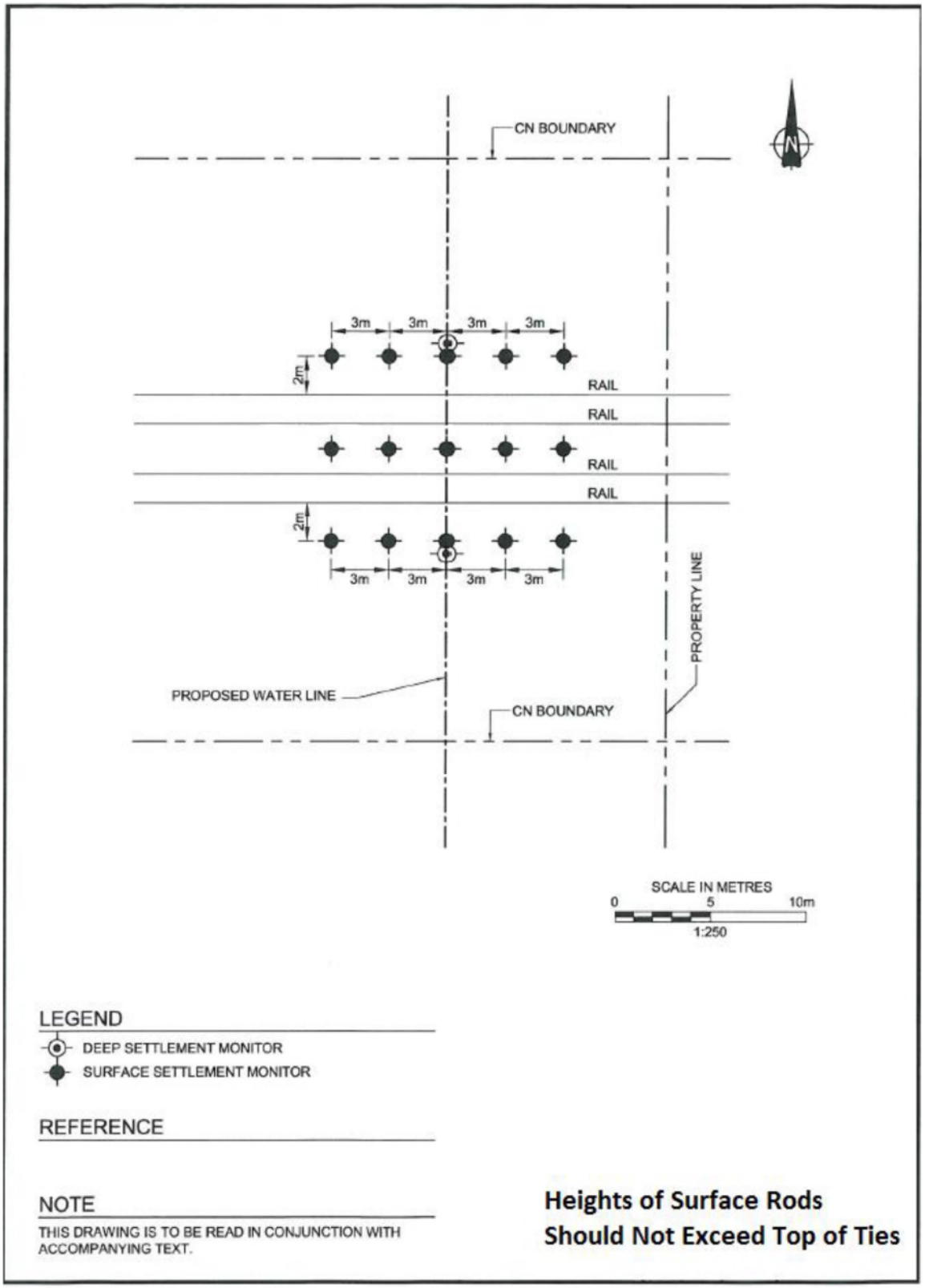
5. Submit a Settlement Monitoring Plan including:
    a. Summary of Proposed Settlement Monitoring
        i. Geographical Location
        ii. Number of Settlement Monitoring Probes
        iii. Type of Probe & installation Method
        iv. Expected Amount of Settlement (in)
        v. Frequency of Monitoring
        vi. Duration of Monitoring
    b. Site Plan:
        i. Site Plan
        ii. Identify Probe Locations and Offset Distances to Nearest Rails
        iii. Elevation of Top-of-Probes
    c. Probe Detail Drawing:
        i. Show section through Railroad Track Roadbed
        ii. Existing Ground Line
        iii. Depth of Bore
        iv. Distance to Bottom-of-Probe to Top of Casing Pipe
        v. Submit a dewatering plan.

6. Monitoring During Construction
    a. Monitoring by a qualified geotechnical personnel and report to CN daily.
    b. Installation in accordance with the Contractor's detailed work plan.
    c. Over-excavation does not occur, and the liner / casing is installed tight to the excavation.
    d. Report theoretical vs. actual volumes of spoils removed on per meter and total bases.
    e. The excavation is fully supported until the liner / pipe installation is complete.
    f. The bulkhead is installed at the end of every work shift or during any prolonged stoppage of work.
    g. Voids are fully grouted to refusal immediately after the completion of liner / pipe installation. Report theoretical vs. actual volumes of grout pumped.

7. Reporting to CN during/post Construction
    a. Progress of the contractor and pipe installation and what work was completed on that day,
    b. A summary of the daily ground surface and subsurface movements showing a comparison to a baseline reading taken before the start of construction, settlements of greater than 3/8" shall be reported to CN immediately.
    c. Any other geotechnical issues that may be of concern to CN.
    d. Log of settlement survey results showing
        i. Station
        ii. Date and Elevation of Initial Readings
        iii. Date and Elevation of Subsequent Readings
        iv. Difference in Elevation
    e. Submit ground surface and subsurface monitoring reports to CN daily, showing a comparison to baseline readings taken prior to the commencement of construction. Settlement of 3/16" is to be reported to CN immediately, and a settlement of 3/8" or greater the work is stopped until a resolution is achieved.
8. Provide, in writing, the name and phone number of the Applicant's qualified site inspector who will be on the job site on a full-time basis for the duration of construction. Update prior to work beginning if there are any changes.

NO CONSTRUCTION OR ACCESS TO CN ROW WILL COMMENCE UNTIL AN AGREEMENT HAS BEEN ENTERED INTO BETWEEN CN AND THE UTILITY OWNER

A-1. Monitoring Points Requirements



A-2. Minimum Wall Thickness for Steel Casing Pipe for E80 Loading

Table 1-5-1. Minimum Wall Thickness for Steel Casing Pipe for E80 Loading

Nominal Diameter (inches)	When coated or cathodically protected Nominal Thickness (inches)	When not coated or cathodically protected Nominal Thickness (inches)
12-3/4 and under	0.188	0.188
14	0.188	0.250
16	0.219	0.281
18	0.250	0.312
20 and 22	0.281	0.344
24	0.312	0.375
26	0.344	0.406
28	0.375	0.438
30	0.406	0.469
32	0.438	0.500
34 and 36	0.469	0.531
38	0.500	0.562
40	0.531	0.594
42	0.562	0.625
44 and 46	0.594	0.656
48	0.625	0.688
50	0.656	0.719
52	0.688	0.750
54	0.719	0.781
56 and 58	0.750	0.812
60	0.781	0.844
62	0.812	0.875
64	0.844	0.906
66 and 68	0.875	0.938
70	0.906	0.969
72	0.938	1.000

A-3. Overhead Wireline Clearance Chart

FORMULA: .5" increase for every 1,000 volts in excess of 50 KV
6" increase for every 12,000 volts in excess of 50 KV

Voltage (to ground)	Minimum Clearance Required above top Of rail	Minimum Clearance (Including Static Wires) Required above Communication and Signal Lines
0 to 750	27'0"	4'0"
8,700	28'0"	4'0"
15,000	28'0"	6'0"
50,000	30'0"	6'0"
74,000	31'0"	7'0"
98,000	32'0"	8'0"
122,000	33'0"	9'0"
146,000	34'0"	10'0"
170,000	35'0"	11'0"
194,000	36'0"	12'0"
218,000	37'0"	13'0"
242,000	38'0"	14'0"
266,000	39'0"	15'0"
290,000	40'0"	16'0"
THESE CLEARANCES ARE TO INCLUDE ALL TRACKS OPERATED AS MAIN TRACKS, SIDINGS, AND OTHER AUXILIARY TRACKAGE.		

A-4. Marking of Utilities on Railroad Right-of-Way

CABLE ROUTE MUST BE MARKED AT EDGE OF RIGHT OF WAY WHERE CABLE ENTERS OR LEAVES RAILROAD PROPERTY. IN CASES OF PARALLEL CABLE ROUTE, SIGNS AS INDICATED IN FIGURE 1 ON THIS EXHIBIT WILL BE PLACED APPROXIMATELY EVERY 200 FEET. SIGNS TO BE OF A PERMANENT VERTICAL TYPE, NOT SMALLER THAN 5 INCHES WIDE BY 12 INCHES HEIGHT. YELLOW BACKGROUND WITH BOLD BLACK LETTERING. SIGNS TO BE MOUNTED ON METAL POSTS OR AS OTHERWISE AGREED TO AT A HEIGHT OF 3 FEET ABOVE GROUND LEVEL.



INSURANCE REQUIREMENTS

1. By Licensee

Before commencing work, and until this Agreement shall be terminated or the FACILITY shall be removed (whichever date is later), the LICENSEE shall provide and maintain the following insurance in form and amount with companies satisfactory to and as approved by the RAILROAD.

a. Statutory Workers Compensation and Employer's Liability insurance.

b. Automobile Liability in an amount not less than $1,000,000 dollars combined single limit.

c. Comprehensive General Liability (Occurrence Form) in an amount not less than $5,000,000 dollars combined single limit, with an aggregate of at least $10,000,000 dollars. The Policy must name the appropriate RAILROAD as an Additional Insured and must not contain any exclusions related to:

   1. Doing business on, near, or adjacent to railroad facilities.

   2. Loss or damage resulting from surface, subsurface pollution contamination or seepage, or handling, treatment, disposal, or dumping of waste materials or substances.

Before commencing work, the LICENSEE shall deliver to the RAILROAD a certificate of insurance evidencing the foregoing coverage and upon request the LICENSEE shall deliver a certified, true and complete copy of the policy or policies. The policies shall provide for not less than ten (10) days prior written notice to the RAILROAD of cancellation of or any material change in, the policies; and shall contain the waiver of right of subrogation.

It is understood and agreed that the foregoing insurance coverage is not intended to, and shall not, relieve the LICENSEE from or serve to limit LICENSEE's liability under the indemnity provisions of any applicable agreement.

It is further understood and agreed that, so long as the Agreement shall remain in force or the FACILITY shall have been removed (whichever shall be later), the RAILROAD shall have the right, from time to time, to revise the amount or form of insurance coverage provided as circumstances or changing economic conditions may require. The RAILROAD shall give the LICENSEE written notice of any such requested change at least thirty (30) days prior to the date of expiration of the then existing policy or policies; and the LICENSEE agrees to, and shall, thereupon provide the RAILROAD with such revised policy or policies thereof.

2. By the Licensee's Contractor

If a contractor is to be employed by the Licensee for the installation of the FACILITY, then, before commencing work, the contractor shall provide and maintain the following insurance, in form and amount and with companies satisfactory to, and as approved by, the RAILROAD.

d. Statutory Workers' Compensation and Employer's Liability insurance.

e. Automobile Liability in an amount not less than $1,000,000 dollars combined single limit.

f. An Occurrence Form Railroad Protective Policy with limits of not less than $5,000,000 dollars per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property with $10,000,000 dollars aggregate for the term of the policy with respect of Bodily Injury Liability, Property Damage Liability and Physical Damage to Property. The policy must name the appropriate RAILROAD as the insured, and shall provide for not less than ten (10) days prior written notice to the RAILROAD'S as cancellation of, or any material change, in the policy.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

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:
	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A :	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:** 1

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	SUBR	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
X	GENERAL LIABILITY COMMERCIAL GENERAL LIABILITY	Y	Y		EFF DATE	EXP DATE	EACH OCCURRENCE	$5,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$10,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
								$
X	AUTOMOBILE LIABILITY Y ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS	Y	Y		EFF DATE	EXP DATE	COMBINED SINGLE	$1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
X	UMBRELLA LIAB X OCCUR	Y	Y		EFF DATE	EXP DATE	EACH OCCURRENCE	$5,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$10,000,000
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y	Y		EFF DATE	EXP DATE	OTH-ER	MIN STATUTORY

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Certificate holder is an additional insured under all polices on this certificate including Commercial General Liability and Umbrella Liability.

A Waiver of Subrogation applies in favor of the Certificate Holder for all policies on this certificate including Commercial General Liability and Umbrella Liability.

50 foot railroad exclusion is removed through CG 2417 10 01

CERTIFICATE HOLDER

(Appropriate Railroad Company Subsidiary for work location)

Example: Wisconsin Central Ltd. and its Parents

Attn: CN Flagging - US
17641 South Ashland Avenue
Homewood, IL 60430

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
of

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APPENDIX F

CLEVELAND AVENUE RAILROAD CROSSING PERMIT FORMS

BAXTER & WOODMAN Consulting Engineers

PERMIT FOR UTILITY CROSSING AND / OR ENCROACHMENT

Date: January 27, 2025,

Facility Owner: CITY OF JOLIET

Document No.: 8356-W

150 W JEFFERSON.

Work Order No.:

JOLIET, IL 60432

Location: Henderson Ave (DOT#261060D)
Road; Street; Avenue

_____1/4, _____1/4, Section _____, T_____, R_____

Telephone No.: 815-724-4226

City of: Joliet

Fax No.:

County: Will State: IL

24 Hr. Emergency No.:

Line Segment: Milepost: 0.05

Attention: Tony Anczer

Survey Station: Matteson

This permit is not valid unless it indicates that Wisconsin Central LTD has received all the information requested. If any of the boxes are checked that information must be provided before the project is approved and this permit is valid.

CHECKLIST

It appears that your notification is deficient in the following aspects: (When returning information checked in the boxes please refer to the document number.)

☐ Before the construction can begin, we must receive a certificate of insurance from the contractor/facility owner. The limits are as follows:

(a) Statutory Workers' compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) Commercial General Liability in an amount not less than $5,000,000 combined single limit. In the event the policy is a Claims Made policy, coverage shall include an aggregate of $10,000,000.

Before commencing work, the contractor shall provide and maintain the following insurance, in form and amount and with companies satisfactory to, and as approved by, the RAILROAD.

(a) Statutory Worker's Compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) An occurrence form Railroad Protective Policy with limits of not less than $5,000,000 per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with $10,000,000 aggregate for the term of the policy with respect to Bodily Injury, Liability, Property Damage Liability and Physical Damage to Property.

BOTH POLICIES MUST NAME:

Wisconsin Central LTD and its Parents
17641 S Ashland Ave.
Homewood, IL. 60430
Reference Document No 8356-W or Work Order No._____

as the insured and shall provide for not less than ten (10) days prior written notice to the Railroad as cancellation of, or any materials change, in the policy.

☐ Please complete and return the enclosed application form.

☐ This notification is not subject to the rules adopted pursuant to Chapter PSC 132 of the Wisconsin Administrative Code. All of the items marked below must be resolved before the Railroad will begin processing your submittals as satisfactory notification. Please send the requested information to:

Wisconsin Central LTD
Attn: CN Utilities
17641 S Ashland Ave.
Homewood, IL. 60430

Notification does not include:

☐ A legible scaled drawing.

☐ A legible detailed cross section.

☐ Legal description.

☐ An emergency contact and telephone number as required by PSC 132.06 (2)

☐ Who will perform construction (e.g. internal labor, contractor)?

☐ The owner of the proposed facility. PLEASE PROVIDE THE NAME, ADDRESS, TELEPHONE NUMBER AND CONTACT PERSON FOR THE OWNER OF THE FACILITY.

☐ Description of materials involved. (e.g. type of wire, cable, pipe crossing) - install a new 8-inch water main in a 20-inch steel casing.

☐ Type and size of facility.

☐ **Because of the lack of data submitted with your notification, or your specifications do not meet railroad construction requirements; the railroad does not accept it as meeting the requirements of notification. Your notification will be complete upon receipt of the information requested and the required documents will be processed. Any attempt to construct before the documents are prepared and executed, will be viewed as trespassing and the construction will be halted and _____ (Consultant/Contractor) and _____ (Facility Owner) will be prosecuted to the fullest extent of the law.**

☐ A deposit is required to begin permit processing.

☐ Please provide vicinity map showing cross streets and the location of the project.

☐ Profile of crossing.

☐ Is this being installed at an existing public road crossing?

☐ The casing shall extend a minimum of the entire width of Railroad right of way. In addition, the casing pipe shall be a minimum of 5'6" below the track and extend a minimum of 3' beyond the toe or top of a slope or ditch and must be sealed.

☐ A steel casing pipe with an E-80 loading capacity is required for installation of a PVC or PLASTIC CONDUIT. The casing pipe must be bored and jacked with a minimum depth of 5.5' from the bottom of the rail to the top of the casing and shall extend the entire width of the Railroad right of way. In addition, the casing pipe shall be sealed and vented on each side of the tracks outside of the railroad right of way line (see-enclosed specifications).

☐ The tracks have been removed but the right of way is still owned by Wisconsin Central LTD and construction is required as though rails are still there.

☐ Road right of way width of Henderson Ave (DOT#261060D)_____

☐ Construction is not permitted until agreements are signed and all fees are paid.

☐ You are proposing to directionally bore a _____ " natural gas main without a casing pipe, Wisconsin Central LTD requires that any uncased gas mains be installed in accordance with Part 5, Section 5.2 of the American Railway Engineering and Maintenance Associations Manual for Railway Engineering.

X **You must CONTACT Wisconsin Central LTD five (5) working days prior to construction. The contact information can be found below.**

X **PER PSC 132 YOU ARE REQUIRED TO PROVIDE THE RAILROAD NOTICE OF CONSTRUCTION A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION. NOTE: WISCONSIN CENTRAL LTD IS NOT ASSOCIATED WITH DIGGERS / JULIE / MISS DIG / GOLPHER ON CALL.**

X **Signal Wire Locate**

X **Railroad Flagger**

Call to set up Signal Wire Location & Railroad Flagger:
Wisconsin Central LTD
Flagging-US
17641 South Ashland Ave.
Homewood, IL 60430
US_Flagging@CN.CA

www.cn.ca

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

January 27, 2025

Tony Anczer
Deputy Director of Engineering
City of Joliet
150 W Jefferson St
Joliet, IL 60432

Subject: 8356-W: Wisconsin Central Ltd., MATTESON Subdivision, MP 0.05 - 0.05

CN Engineering Design & Construction has reviewed the request for install a 17.40-inch DIP inside a 38.30-inch casing for water main drinking water. There are no engineering objections provided the following occurs:

1.) CN Utility Locate Required.

2.) CN's operations are not to be impaired or affected by any of the described work.

3.) A flagman, railroad representative is to be present during any and all work on, over, under or near railroad property.

4.) All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have, at a minimum, safety certification with www.contractororientation.com and the railroad representative will be responsible for verifying and documenting said certifications.

5.) Installer must monitor top of rail elevations via daily surveying for borings greater than 6 in. in size and that occur under CN tracks. A log of top of rail elevations may be requested at any time throughout the duration work.

6.) Any work that involves temporary traffic control plans or railroad grade crossings should follow the requirements of the current edition of MUTCD Section 8A.08 Temporary Traffic Control Zones and MUTCD Section 6. Traffic plan to be presented and discussed with Railroad Flagman / Railroad representative during every briefing.

7.) Once the bore commences, it must continue, without stopping, until it reaches the receiving pit.

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

8.) A Professional Engineer must be on site during the entire boring process. The PE will certify that the amount of material removed for the bore does not exceed the volume of the casing installed, and that the total as-built length of the casing does not exceed the sum of its parts.

This letter shall be valid for a period of two (2) years from the date herein. If the work has not been completed by then, the application will need to be reviewed again to ensure it is in accordance with all applicable regulatory requirements and standards.

Sincerely,

Matthew Arflin
CN Field Engineer

CN Request for Flagging Services and Cable Location

Project Information:	
Please fill in each cell for processing	
Is this a new project?	
List CN Project # (Example SO# 123456, Network# R1234, PSC-132):	
Contractor's Right of Entry (ROE), License, Permit #:	
Date of Agreement for ROE, License or Permit:	
Termination Date of Agreement for ROE, License or Permit (If Applicable):	
Does the scope of work include underground, piledriving, excavation or other activities which would require a Railroad Cable Locate? Note: railroad cables and fibers are not part of any state utility locate programs. If a contractor shows up on site to perform work that requires a cable locate and it was not requested, the flagger will shut down the project	
Does your project require vehicular traffic to be shifted out of its intended lane against the current of traffic at a railroad grade crossing?	
Railroad Subsidiary (listed on your agreement):	
Licensee and/or their contractor shall request, prepay, and secure Railroad Company signal facility locates by written notice to Railroad Company along with submission of CN's "Request for Flagging Services" form at least, 10 business days in advance of proposed performance of any work or access to Railroad Company property. Notice to Railroad Company does not fulfill or satisfy any other notification requirements for utility locates for non-railroad facilities. ***You must have an agreement with a CN railroad subsidiary, such as a Right of Entry, Permit, License or Formal Agreement in addition to any necessary flagging before you may enter CN property.***	

Flagging Protection Schedule:	
Requested Dates for Flagger Protection: Dates requested are subject to Flagging Co. availability and any project needing a cable locate will need 10 days minimum advance notice. This should be considered when requesting dates for flagging.	
Estimated Duration (in days) for Flagger:	
Estimated Work Schedule (example Mon. – Sat.)	
Daily Start Time / End Time (example 0700 to 1700 etc.): (Flagger start and end time may vary based on type of protection required)	

Flagging Protection Location:		
Railroad Mile Post (MP):		
Railroad Subdivision:		
Project's Location (Street location/intersection):		
Project - City / State:		
Project Description (example HDD, Jack and Bore, Encroachment, Underground or Overhead Pipeline / Wireline crossing, etc.):		
Location for flagger to report:		
Field Contact Person(s):	1st	Alternate
Mobile Phone Number(s):	1st	Alternate
Email Address(s):		

CN REQUEST FOR FLAGGING SERVICES AND CABLE LOCATION

Billing Information:

Company Name:	
Contact Name:	
E-Mail:	
Billing Address:	
City/State:	
ZIP Code:	
Company Phone:	

Electronic Payment Instructions / Payment Information

Financial Institution	HARRIS TRUST AND SAVINGS BANK 311 WEST MONROE, CHICAGO, IL	Customer Number (if available)	
Account Name	Grand Trunk Western	CN Contact	
Account	274-733-5	Service Requested (Flagging MP, Request Date)	
US ROUTING (ABA)	071 000 288		
Remittance Details	nfcashmanagement@cn.ca	Prepayment Amount	

Please send payment remittance details and copy of this flagging request to nfcashmanagement@cn.ca

Before Flagging Service is provided:

CN required online training must be completed before Flagging Protection will be scheduled.

Prepayment must be received before Flagging Protection will be scheduled.

There is an 8-hour minimum per day. The base rate for Flagging Protection is $2,500.00 for 10 hours: this includes 2 overtime hours for flagger to set up/take down protection if needed. Additional overtime hour must be prepaid at the rate of $275.00.00 per hour. Weekends and Holidays must be prepaid at the overtime rate with a $3,025.00 / 10 hour minimum. (Rates Effective October 1st, 2023.)

*******New Rates effective March 10, 2025 below*******

A fixed rate of $2,900 per flagging day (12-hour day) ($3,300 on Weekends and Holidays) for flagging protection and it needs to be prepaid. Railroad Cable Locate must be prepaid at $1,025. Fixed fees prepaid for full unused days will be refunded. For greater clarity, if a customer prepaid for 5 flagging days and used 3 days, CN will refund 2 days.

If additional days of flagging protection are required, they must be prepaid in advance.

Any prepayment not used can be refunded.

Railroad Cable Location must be prepaid, the cost is $9750.00 per locate.

New rate effective March 10, 2025 $1,025 per locate.

This completed form must be sent with a map, confirmation of electronic prepayment, and proof of insurance to US_Flagging@cn.ca

CN Flagging Department

US Flagging
T: **248-914-9695**
17641 South Ashland Ave.
Homewood, IL 60430
US Flagging@cn.ca

I, _____, agree to pay for flagging and/or cable locate services as requested _____
Print Name **Signature**

APPENDIX G

VALLEY AVENUE RAILROAD CROSSING PERMIT FORMS

BAXTER & WOODMAN Consulting Engineers

PERMIT FOR UTILITY CROSSING AND / OR ENCROACHMENT

Date: January 27, 2025,

Facility Owner: CITY OF JOLIET

Document No.: 8357-W

150 W JEFFERSON.

Work Order No.:

JOLIET, IL 60432

Location: Charlesworth Ave (DOT#260598U)

Road; Street; Avenue

_____1/4, _____1/4, Section _____, T_____, R_____

Telephone No.: 815-724-4226

City of: Joliet

Fax No.:

County: Will State: IL

24 Hr. Emergency No.:

Line Segment: Milepost: 0.057

Attention: Tony Anczer

Survey Station: Matteson

This permit is not valid unless it indicates that Wisconsin Central LTD has received all the information requested. If any of the boxes are checked that information must be provided before the project is approved and this permit is valid.

CHECKLIST

It appears that your notification is deficient in the following aspects: (When returning information checked in the boxes please refer to the document number.)

☐ Before the construction can begin, we must receive a certificate of insurance from the contractor/facility owner. The limits are as follows:

(a) Statutory Workers' compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) Commercial General Liability in an amount not less than $5,000,000 combined single limit. In the event the policy is a Claims Made policy, coverage shall include an aggregate of $10,000,000.

Before commencing work, the contractor shall provide and maintain the following insurance, in form and amount and with companies satisfactory to, and as approved by, the RAILROAD.

(a) Statutory Worker's Compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) An occurrence form Railroad Protective Policy with limits of not less than $5,000,000 per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with $10,000,000 aggregate for the term of the policy with respect to Bodily Injury, Liability, Property Damage Liability and Physical Damage to Property.

BOTH POLICIES MUST NAME:

Wisconsin Central LTD and its Parents
17641 S Ashland Ave.
Homewood, IL. 60430
Reference Document No 8356-W or Work Order No._____

as the insured and shall provide for not less than ten (10) days prior written notice to the Railroad as cancellation of, or any materials change, in the policy.

☐ Please complete and return the enclosed application form.

☐ This notification is not subject to the rules adopted pursuant to Chapter PSC 132 of the Wisconsin Administrative Code. All of the items marked below must be resolved before the Railroad will begin processing your submittals as satisfactory notification. Please send the requested information to:

Wisconsin Central LTD
Attn: CN Utilities
17641 S Ashland Ave.
Homewood, IL. 60430

Notification does not include:

☐ A legible scaled drawing.

☐ A legible detailed cross section.

☐ Legal description.

☐ An emergency contact and telephone number as required by PSC 132.06 (2)

☐ Who will perform construction (e.g. internal labor, contractor)?

☐ The owner of the proposed facility. PLEASE PROVIDE THE NAME, ADDRESS, TELEPHONE NUMBER AND CONTACT PERSON FOR THE OWNER OF THE FACILITY.

☐ Description of materials involved. (e.g. type of wire, cable, pipe crossing) - install a new 8-inch water main in a 20-inch steel casing.

☐ Type and size of facility.

☐ **Because of the lack of data submitted with your notification, or your specifications do not meet railroad construction requirements; the railroad does not accept it as meeting the requirements of notification. Your notification will be complete upon receipt of the information requested and the required documents will be processed. Any attempt to construct before the documents are prepared and executed, will be viewed as trespassing and the construction will be halted and _____ (Consultant/Contractor) and _____ (Facility Owner) will be prosecuted to the fullest extent of the law.**

☐ A deposit is required to begin permit processing.

☐ Please provide vicinity map showing cross streets and the location of the project.

☐ Profile of crossing.

☐ Is this being installed at an existing public road crossing?

☐ The casing shall extend a minimum of the entire width of Railroad right of way. In addition, the casing pipe shall be a minimum of 5'6" below the track and extend a minimum of 3' beyond the toe or top of a slope or ditch and must be sealed.

☐ A steel casing pipe with an E-80 loading capacity is required for installation of a PVC or PLASTIC CONDUIT. The casing pipe must be bored and jacked with a minimum depth of 5.5' from the bottom of the rail to the top of the casing and shall extend the entire width of the Railroad right of way. In addition, the casing pipe shall be sealed and vented on each side of the tracks outside of the railroad right of way line (see-enclosed specifications).

☐ The tracks have been removed but the right of way is still owned by Wisconsin Central LTD and construction is required as though rails are still there.

☐ Road right of way width of Charlesworth Ave (DOT#260598U)____

☐ Construction is not permitted until agreements are signed and all fees are paid.

☐ You are proposing to directionally bore a _____ " natural gas main without a casing pipe, Wisconsin Central LTD requires that any uncased gas mains be installed in accordance with Part 5, Section 5.2 of the American Railway Engineering and Maintenance Associations Manual for Railway Engineering.

X **You must CONTACT Wisconsin Central LTD five (5) working days prior to construction. The contact information can be found below.**

X **PER PSC 132 YOU ARE REQUIRED TO PROVIDE THE RAILROAD NOTICE OF CONSTRUCTION A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION. NOTE: WISCONSIN CENTRAL LTD IS NOT ASSOCIATED WITH DIGGERS / JULIE / MISS DIG / GOLPHER ON CALL.**

X **Signal Wire Locate**

X **Railroad Flagger**

Call to set up Signal Wire Location & Railroad Flagger:
Wisconsin Central LTD
Flagging-US
17641 South Ashland Ave.
Homewood, IL 60430
US_Flagging@CN.CA

www.cn.ca

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

January 27, 2025

Tony Anczer
Deputy Director of Engineering
City of Joliet
150 W Jefferson St
Joliet, IL 60432

Subject: 8357-W: Wisconsin Central Ltd., LEITHTON Subdivision, MP 0.57 - 0.57

CN Engineering Design & Construction has reviewed the request for install a 17.40 inch DIP inside a 38.30-inch casing for water main drinking water. There are no engineering objections provided the following occurs:

1.) CN Utility Locate Required.

2.) CN's operations are not to be impaired or affected by any of the described work.

3.) A flagman, railroad representative is to be present during any and all work on, over, under or near railroad property.

4.) All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have, at a minimum, safety certification with www.contractororientation.com and the railroad representative will be responsible for verifying and documenting said certifications.

5.) Installer must monitor top of rail elevations via daily surveying for borings greater than 6 in. in size and that occur under CN tracks. A log of top of rail elevations may be requested at any time throughout the duration work.

6.) Any work that involves temporary traffic control plans or railroad grade crossings should follow the requirements of the current edition of MUTCD Section 8A.08 Temporary Traffic Control Zones and MUTCD Section 6. Traffic plan to be presented and discussed with Railroad Flagman / Railroad representative during every briefing.

7.) Once the bore commences, it must continue, without stopping, until it reaches the receiving pit.

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

8.) A Professional Engineer must be on site during the entire boring process. The PE will certify that the amount of material removed for the bore does not exceed the volume of the casing installed, and that the total as-built length of the casing does not exceed the sum of its parts.

This letter shall be valid for a period of two (2) years from the date herein. If the work has not been completed by then, the application will need to be reviewed again to ensure it is in accordance with all applicable regulatory requirements and standards.

Sincerely,

Matthew Arflin
CN Field Engineer

CN Request for Flagging Services and Cable Location

Project Information:	
Please fill in each cell for processing	
Is this a new project?	
List CN Project # (Example SO# 123456, Network# R1234, PSC-132):	
Contractor's Right of Entry (ROE), License, Permit #:	
Date of Agreement for ROE, License or Permit:	
Termination Date of Agreement for ROE, License or Permit (If Applicable):	
Does the scope of work include underground, piledriving, excavation or other activities which would require a Railroad Cable Locate? Note: railroad cables and fibers are not part of any state utility locate programs. If a contractor shows up on site to perform work that requires a cable locate and it was not requested, the flagger will shut down the project	
Does your project require vehicular traffic to be shifted out of its intended lane against the current of traffic at a railroad grade crossing?	
Railroad Subsidiary (listed on your agreement):	
Licensee and/or their contractor shall request, prepay, and secure Railroad Company signal facility locates by written notice to Railroad Company along with submission of CN's "Request for Flagging Services" form at least, 10 business days in advance of proposed performance of any work or access to Railroad Company property. Notice to Railroad Company does not fulfill or satisfy any other notification requirements for utility locates for non-railroad facilities. ***You must have an agreement with a CN railroad subsidiary, such as a Right of Entry, Permit, License or Formal Agreement in addition to any necessary flagging before you may enter CN property.***	

Flagging Protection Schedule:	
Requested Dates for Flagger Protection: Dates requested are subject to Flagging Co. availability and any project needing a cable locate will need 10 days minimum advance notice. This should be considered when requesting dates for flagging.	
Estimated Duration (in days) for Flagger:	
Estimated Work Schedule (example Mon. – Sat.)	
Daily Start Time / End Time (example 0700 to 1700 etc.): (Flagger start and end time may vary based on type of protection required)	

Flagging Protection Location:		
Railroad Mile Post (MP):		
Railroad Subdivision:		
Project's Location (Street location/intersection):		
Project - City / State:		
Project Description (example HDD, Jack and Bore, Encroachment, Underground or Overhead Pipeline / Wireline crossing, etc.):		
Location for flagger to report:		
Field Contact Person(s):	1st	Alternate
Mobile Phone Number(s):	1st	Alternate
Email Address(s):		

CN REQUEST FOR FLAGGING SERVICES AND CABLE LOCATION

Billing Information:

Company Name:	
Contact Name:	
E-Mail:	
Billing Address:	
City/State:	
ZIP Code:	
Company Phone:	

Electronic Payment Instructions / Payment Information

Financial Institution	HARRIS TRUST AND SAVINGS BANK 311 WEST MONROE, CHICAGO, IL	Customer Number (if available)	
Account Name	Grand Trunk Western	CN Contact	
Account	274-733-5	Service Requested (Flagging MP, Request Date)	
US ROUTING (ABA)	071 000 288		
Remittance Details	nfcashmanagement@cn.ca	Prepayment Amount	

Please send payment remittance details and copy of this flagging request to nfcashmanagement@cn.ca

Before Flagging Service is provided:

CN required online training must be completed before Flagging Protection will be scheduled.

Prepayment must be received before Flagging Protection will be scheduled.

There is an 8-hour minimum per day. The base rate for Flagging Protection is $2,500.00 for 10 hours: this includes 2 overtime hours for flagger to set up/take down protection if needed. Additional overtime hour must be prepaid at the rate of $275.00.00 per hour. Weekends and Holidays must be prepaid at the overtime rate with a $3,025.00 / 10 hour minimum. (Rates Effective October 1st, 2023.)

*******New Rates effective March 10, 2025 below*******

A fixed rate of $2,900 per flagging day (12-hour day) ($3,300 on Weekends and Holidays) for flagging protection and it needs to be prepaid. Railroad Cable Locate must be prepaid at $1,025. Fixed fees prepaid for full unused days will be refunded. For greater clarity, if a customer prepaid for 5 flagging days and used 3 days, CN will refund 2 days.

If additional days of flagging protection are required, they must be prepaid in advance.

Any prepayment not used can be refunded.

Railroad Cable Location must be prepaid, the cost is $9750.00 per locate.

New rate effective March 10, 2025 $1,025 per locate.

This completed form must be sent with a map, confirmation of electronic prepayment, and proof of insurance to US_Flagging@cn.ca

CN Flagging Department

US Flagging
T: **248-914-9695**
17641 South Ashland Ave.
Homewood, IL 60430
US Flagging@cn.ca

I, _____, agree to pay for flagging and/or cable locate services as requested _____
Print Name **Signature**

APPENDIX H

WOODRUFF ROAD RAILROAD CROSSING PERMIT FORMS

BAXTER & WOODMAN Consulting Engineers

PERMIT FOR UTILITY CROSSING AND / OR ENCROACHMENT

Date: January 27, 2025,

Document No.: 8358-W

Work Order No.:

Facility Owner: CITY OF JOLIET

150 W JEFFERSON.

JOLIET, IL 60432

Location: Charlesworth Ave (DOT#260598U)

Road; Street; Avenue

_____1/4, _____1/4, Section _____, T_____, R_____

Telephone No.: 815-724-4226

City of: Joliet

Fax No.:

County: Will State: IL

24 Hr. Emergency No.:

Line Segment: Milepost: 0.057

Attention: Tony Anczer

Survey Station: Matteson

This permit is not valid unless it indicates that Wisconsin Central LTD has received all the information requested. If any of the boxes are checked that information must be provided before the project is approved and this permit is valid.

CHECKLIST

It appears that your notification is deficient in the following aspects: (When returning information checked in the boxes please refer to the document number.)

☐ Before the construction can begin, we must receive a certificate of insurance from the contractor/facility owner. The limits are as follows:

(a) Statutory Workers' compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) Commercial General Liability in an amount not less than $5,000,000 combined single limit. In the event the policy is a Claims Made policy, coverage shall include an aggregate of $10,000,000.

Before commencing work, the contractor shall provide and maintain the following insurance, in form and amount and with companies satisfactory to, and as approved by, the RAILROAD.

(a) Statutory Worker's Compensation and Employer's Liability insurance.
(b) Automobile Liability in an amount not less than $1,000,000 combined single limit.
(c) An occurrence form Railroad Protective Policy with limits of not less than $5,000,000 per occurrence for Bodily Injury Liability, Property Damage Liability and Physical Damage to Property, with $10,000,000 aggregate for the term of the policy with respect to Bodily Injury, Liability, Property Damage Liability and Physical Damage to Property.

BOTH POLICIES MUST NAME:

Wisconsin Central LTD and its Parents
17641 S Ashland Ave.
Homewood, IL. 60430
Reference Document No 8358-W or Work Order No._____

as the insured and shall provide for not less than ten (10) days prior written notice to the Railroad as cancellation of, or any materials change, in the policy.

☐ Please complete and return the enclosed application form.

☐ This notification is not subject to the rules adopted pursuant to Chapter PSC 132 of the Wisconsin Administrative Code. All of the items marked below must be resolved before the Railroad will begin processing your submittals as satisfactory notification. Please send the requested information to:

Wisconsin Central LTD
Attn: CN Utilities
17641 S Ashland Ave.
Homewood, IL. 60430

Notification does not include:

☐ A legible scaled drawing.

☐ A legible detailed cross section.

☐ Legal description.

☐ An emergency contact and telephone number as required by PSC 132.06 (2)

☐ Who will perform construction (e.g. internal labor, contractor)?

☐ The owner of the proposed facility. PLEASE PROVIDE THE NAME, ADDRESS, TELEPHONE NUMBER AND CONTACT PERSON FOR THE OWNER OF THE FACILITY.

☐ Description of materials involved. (e.g. type of wire, cable, pipe crossing) - install a new 8-inch water main in a 20-inch steel casing.

☐ Type and size of facility.

☐ **Because of the lack of data submitted with your notification, or your specifications do not meet railroad construction requirements; the railroad does not accept it as meeting the requirements of notification. Your notification will be complete upon receipt of the information requested and the required documents will be processed. Any attempt to construct before the documents are prepared and executed, will be viewed as trespassing and the construction will be halted and _____ (Consultant/Contractor) and _____ (Facility Owner) will be prosecuted to the fullest extent of the law.**

☐ A deposit is required to begin permit processing.

☐ Please provide vicinity map showing cross streets and the location of the project.

☐ Profile of crossing.

☐ Is this being installed at an existing public road crossing?

☐ The casing shall extend a minimum of the entire width of Railroad right of way. In addition, the casing pipe shall be a minimum of 5'6" below the track and extend a minimum of 3' beyond the toe or top of a slope or ditch and must be sealed.

☐ A steel casing pipe with an E-80 loading capacity is required for installation of a PVC or PLASTIC CONDUIT. The casing pipe must be bored and jacked with a minimum depth of 5.5' from the bottom of the rail to the top of the casing and shall extend the entire width of the Railroad right of way. In addition, the casing pipe shall be sealed and vented on each side of the tracks outside of the railroad right of way line (see-enclosed specifications).

☐ The tracks have been removed but the right of way is still owned by Wisconsin Central LTD and construction is required as though rails are still there.

☐ Road right of way width of Charlesworth Ave (DOT#260598U)____

☐ Construction is not permitted until agreements are signed and all fees are paid.

☐ You are proposing to directionally bore a _____ " natural gas main without a casing pipe, Wisconsin Central LTD requires that any uncased gas mains be installed in accordance with Part 5, Section 5.2 of the American Railway Engineering and Maintenance Associations Manual for Railway Engineering.

X **You must CONTACT Wisconsin Central LTD five (5) working days prior to construction. The contact information can be found below.**

X **PER PSC 132 YOU ARE REQUIRED TO PROVIDE THE RAILROAD NOTICE OF CONSTRUCTION A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CONSTRUCTION. NOTE: WISCONSIN CENTRAL LTD IS NOT ASSOCIATED WITH DIGGERS / JULIE / MISS DIG / GOLPHER ON CALL.**

X **Signal Wire Locate**

X **Railroad Flagger**

Call to set up Signal Wire Location & Railroad Flagger:
Wisconsin Central LTD
Flagging-US
17641 South Ashland Ave.
Homewood, IL 60430
US_Flagging@CN.CA

www.cn.ca

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

January 27, 2025

Tony Anczer
Deputy Director of Engineering
City of Joliet
150 W Jefferson St
Joliet, IL 60432

Subject: 8358-W: Wisconsin Central Ltd., LEITHTON Subdivision, MP 0.57 - 0.57

CN Engineering Design & Construction has reviewed the request for install a 17.40 inch DIP inside a 38.30-inch steel casing for water main drinking water. There are no engineering objections provided the following occurs:

1.) CN Utility Locate Required.

2.) CN's operations are not to be impaired or affected by any of the described work.

3.) A flagman, railroad representative is to be present during any and all work on, over, under or near railroad property.

4.) All employees of contractors not hired by CN that will work on, over, under or near CN property are required to have at a minimum, safety certification with www.contractororientation.com and the railroad representative will be responsible for verifying and documenting said certifications.

5.) Installer must monitor top of rail elevations via daily surveying for borings greater than 6 in. in size and that occur under CN tracks. A log of top of rail elevations may be requested at any time throughout the duration work.

6.) Any work that involves temporary traffic control plans or railroad grade crossings should follow the requirements of the current edition of MUTCD Section 8A.08 Temporary Traffic Control Zones and MUTCD Section 6. Traffic plan to be presented and discussed with Railroad Flagman / Railroad representative during every briefing.

7.) Once the bore commences, it must continue, without stopping, until it reaches the receiving pit.

CN System Engineering

Matthew Arflin
Design and Construction
Field Engineer
17641 Ashland Ave
Homewood, IL 60430

8.) A Professional Engineer must be on site during the entire boring process. The PE will certify that the amount of material removed for the bore does not exceed the volume of the casing installed, and that the total as-built length of the casing does not exceed the sum of its parts.

This letter shall be valid for a period of two (2) years from the date herein. If the work has not been completed by then, the application will need to be reviewed again to ensure it is in accordance with all applicable regulatory requirements and standards.

Sincerely,

Matthew Arflin
CN Field Engineer

CN Request for Flagging Services and Cable Location

Project Information:	
Please fill in each cell for processing	
Is this a new project?	
List CN Project # (Example SO# 123456, Network# R1234, PSC-132):	
Contractor's Right of Entry (ROE), License, Permit #:	
Date of Agreement for ROE, License or Permit:	
Termination Date of Agreement for ROE, License or Permit (If Applicable):	
Does the scope of work include underground, piledriving, excavation or other activities which would require a Railroad Cable Locate? Note: railroad cables and fibers are not part of any state utility locate programs. If a contractor shows up on site to perform work that requires a cable locate and it was not requested, the flagger will shut down the project	
Does your project require vehicular traffic to be shifted out of its intended lane against the current of traffic at a railroad grade crossing?	
Railroad Subsidiary (listed on your agreement):	
Licensee and/or their contractor shall request, prepay, and secure Railroad Company signal facility locates by written notice to Railroad Company along with submission of CN's "Request for Flagging Services" form at least, 10 business days in advance of proposed performance of any work or access to Railroad Company property. Notice to Railroad Company does not fulfill or satisfy any other notification requirements for utility locates for non-railroad facilities. ***You must have an agreement with a CN railroad subsidiary, such as a Right of Entry, Permit, License or Formal Agreement in addition to any necessary flagging before you may enter CN property.***	

Flagging Protection Schedule:	
Requested Dates for Flagger Protection: Dates requested are subject to Flagging Co. availability and any project needing a cable locate will need 10 days minimum advance notice. This should be considered when requesting dates for flagging.	
Estimated Duration (in days) for Flagger:	
Estimated Work Schedule (example Mon. – Sat.)	
Daily Start Time / End Time (example 0700 to 1700 etc.): (Flagger start and end time may vary based on type of protection required)	

Flagging Protection Location:		
Railroad Mile Post (MP):		
Railroad Subdivision:		
Project's Location (Street location/intersection):		
Project - City / State:		
Project Description (example HDD, Jack and Bore, Encroachment, Underground or Overhead Pipeline / Wireline crossing, etc.):		
Location for flagger to report:		
Field Contact Person(s):	1st	Alternate
Mobile Phone Number(s):	1st	Alternate
Email Address(s):		

CN REQUEST FOR FLAGGING SERVICES AND CABLE LOCATION

Billing Information:

Company Name:	
Contact Name:	
E-Mail:	
Billing Address:	
City/State:	
ZIP Code:	
Company Phone:	

Electronic Payment Instructions / Payment Information

Financial Institution	HARRIS TRUST AND SAVINGS BANK 311 WEST MONROE, CHICAGO, IL	Customer Number (if available)	
Account Name	Grand Trunk Western	CN Contact	
Account	274-733-5	Service Requested (Flagging MP, Request Date)	
US ROUTING (ABA)	071 000 288		
Remittance Details	nfcashmanagement@cn.ca	Prepayment Amount	

Please send payment remittance details and copy of this flagging request to nfcashmanagement@cn.ca

Before Flagging Service is provided:

CN required online training must be completed before Flagging Protection will be scheduled.

Prepayment must be received before Flagging Protection will be scheduled.

There is an 8-hour minimum per day. The base rate for Flagging Protection is $2,500.00 for 10 hours: this includes 2 overtime hours for flagger to set up/take down protection if needed. Additional overtime hour must be prepaid at the rate of $275.00.00 per hour. Weekends and Holidays must be prepaid at the overtime rate with a $3,025.00 / 10 hour minimum. (Rates Effective October 1st, 2023.)

*******New Rates effective March 10, 2025 below*******

A fixed rate of $2,900 per flagging day (12-hour day) ($3,300 on Weekends and Holidays) for flagging protection and it needs to be prepaid. Railroad Cable Locate must be prepaid at $1,025. Fixed fees prepaid for full unused days will be refunded. For greater clarity, if a customer prepaid for 5 flagging days and used 3 days, CN will refund 2 days.

If additional days of flagging protection are required, they must be prepaid in advance.

Any prepayment not used can be refunded.

Railroad Cable Location must be prepaid, the cost is $9750.00 per locate.

New rate effective March 10, 2025 $1,025 per locate.

This completed form must be sent with a map, confirmation of electronic prepayment, and proof of insurance to US_Flagging@cn.ca

CN Flagging Department

US Flagging
T: **248-914-9695**
17641 South Ashland Ave.
Homewood, IL 60430
US Flagging@cn.ca

I, _____, agree to pay for flagging and/or cable locate services as requested _____
Print Name **Signature**