

**PROJECT MANUAL  
FOR**

**Kane Ave. Watermain  
Replacement**

**City of McHenry, Illinois**


**2025**

**For Bid**

**OWNERSHIP OF DOCUMENT**

This document, and the ideas and designs incorporated herein, as an instrument of professional service, is the property of HR Green, Inc. and is not to be used, in whole or in part, for any other project without the written authorization of HR Green, Inc.

# CERTIFICATIONS

	<p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Illinois.</p>
	<p><i>Andy Lemke</i> <span style="float: right;">Date: 11/20/24</span></p> <hr/> <p>ANDY K. LEMKE, P.E. License No. <b>062-068207</b> My renewal date is <b>November 30, 2025</b>. Pages or sheets covered by this seal: <u>All Divisions</u></p> <hr/> <hr/> <hr/>

**PROJECT MANUAL  
KANE AVE. WATERMAIN REPLACEMENT  
MCHENRY, ILLINOIS  
2025**

**TABLE OF CONTENTS**

Section	Title
<b>PROJECT IDENTIFICATION</b>	
	Title Page
	Certifications
	Table of Contents
<b>BIDDING REQUIREMENTS</b>	
00100	Advertisement for Bids
00200	Instructions to Bidders
00320	Geotechnical Data
00400	Bid Form
00430	Bid Bond
<b>CONTRACTING REQUIREMENTS</b>	
00510	Notice of Award
00520	Agreement
00550	Notice to Proceed
00610	Performance and Maintenance Bond
00615	Payment Bond
<b>CONDITIONS OF THE CONTRACT</b>	
00700	Standard General Conditions of the Construction Contract EJCDC No. C-700 (2007 Edition)
00800	Supplementary General Conditions

## SPECIFICATIONS

Section	Title
<b>DIVISION 1 - GENERAL REQUIREMENTS</b>	
01 1000	Summary
01 3000	Administrative Requirements
01 3216	Construction Progress Schedule
01 4000	Quality Requirements
01 4213	Abbreviations
01 4219	Reference Standards
01 5000	Temporary Facilities and Controls
01 6000	Product Requirements
01 7000	Execution and Closeout Requirements
01 7413	Cleaning
01 7800	Closeout Submittals

## **DIVISION 2 – SPECIFICATIONS & SPECIAL PROVISIONS**

02 1000	Specifications & Special Provisions
---------	-------------------------------------

**SECTION 00100**

**OFFICIAL NOTICE TO BIDDERS**

**City of McHenry, Illinois**

**Kane Ave. Watermain Replacement**

**Job No.: 2402108**

**OWNER AND WORK:** The City of McHenry, Illinois, hereby gives notice that sealed Bids will be received for the construction of the Kane Ave. Main Replacement. The Work of the Contract is generally described as follows:

The Project includes furnishing all labor, materials, and equipment and performing all work generally described as follows:

- Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
- Abandon approximately 192 Lin Ft of watermain,
- Install 8" insertion valve,
- Jack and bore 24" Steel casing under Union Pacific railroad,
- Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

**TIME AND PLACE OF BID OPENING:** Sealed bids will be received until **11:00 a.m.**, local time, on **February 5, 2025**, at the City of McHenry Public Works Facility, 1415 Industrial Drive, McHenry, Illinois. All bids must be submitted in sealed envelopes (provided) upon the blank form included in the furnished proposal. Sealed envelopes shall be marked in the upper left-hand corner as follows:

Sealed Bid  
City of McHenry – Kane Ave. Watermain Replacement  
Date: **February 5, 2025**  
Time: **11:00 a.m.**

After the official bids closing time, the bids will be publicly opened and read aloud.

Prior to submitting a bid, a firm interested in submitting a bid as a Prime Contractor must complete and return a **Notification of Intent to Bid** form no less than three calendar days prior to the bid opening. Notification of Intent to Bid submittals will not be processed by the City after 3:30 PM three (3) calendar days preceding the published letting date. Submittal of the Notification of Intent to Bid shall confirm the bidder's intention to submit a bid and shall serve as the bidder's request for the City's Authorization to Bid. **NO BIDS SHALL BE ACCEPTED UNLESS THE CONTRACTOR HAS SUBMITTED THE NOTIFICATION OF INTENT TO BID FORM.**

**BIDDING DOCUMENTS:** The Bidding Documents and the Contract may be examined at the McHenry Public Works Facility, 1415 Industrial Drive, McHenry, Illinois 60050, Monday through Friday between the hours of 7:00am and 3:00pm. The Bidding Documents will be available on **January 7, 2025**. Copies of Bidding Documents may be obtained on the City website or by applying to: City of McHenry Public Works, 1415 Industrial Drive, McHenry, Illinois, telephone 815-363-2186. Include company name, street address, name of contact person, telephone number, and fax number with application. **Questions** relating to these Bidding Documents shall be directed, **in writing**, to Russ Adams at City of McHenry, email [radams@cityofmchenry.org](mailto:radams@cityofmchenry.org).

**WAGE RATES:** This contract calls for the construction of a “public work” within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/01 et seq. (“the Act”). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current “prevailing rate of wages” (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The department publishes the prevailing wage rates on its websites at

<http://www.state.il.us/agency/idol/rates/rates.HTM>.

The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department’s web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor’s website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

**PRE-BID CONFERENCE:** No pre-bid conference will be held for this project. Please submit all questions in writing to Russ Adams, email [radams@cityofmchenry.org](mailto:radams@cityofmchenry.org).

**BID SECURITY:** Bid Security in the amount of not less than 10% of the Bid price shall accompany each Bid in accordance with the Instructions to Bidders.

**CONTRACT SECURITY:** The Bidder to whom a Contract is awarded shall furnish a Performance Bond and a Payment Bond each in an amount equal to the Contract Price.

**BID REJECTION/ACCEPTANCE:** The awarding authority for this Contract is the City Council of The City of McHenry, and reserves the right to reject any and all Bids, waive informalities in bidding, or to accept the Bid or Bids, which best serve the interests of the OWNER.

**BID WITHDRAWAL:** No Bid shall be withdrawn for a period of 60 days after the scheduled opening of the bids without the consent of OWNER.

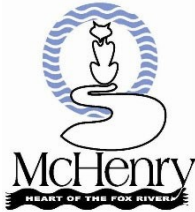
DATED this 7<sup>th</sup> day of January, 2025

**City of McHenry**

By:

Mr. Russ Adams, Acting Director of Public Works

**END OF SECTION**



**NOTIFICATION OF INTENT TO BID**

Prior to submitting a bid, a firm interested in submitting a bid as a Prime Contractor must complete and return this *Notification of Intent to Bid* form no less than three calendar days prior to the bid opening. *Notification of Intent to Bid* submittals will not be processed by the City after 3:30 PM three (3) calendar days preceding the published letting date. Submittal of the *Notification of Intent to Bid* shall confirm a Bidder's intention to submit a bid and shall serve as the Bidder's request for the City's Authorization to Bid. **NO BIDS SHALL BE ACCEPTED UNLESS THE BIDDER HAS SUBMITTED THE NOTIFICATION OF INTENT TO BID FORM.**

For bids requiring IDOT Prequalification, firms shall submit their IDOT Certification of Prequalification along with their Notification of Intent to Bid form.

The bidder shall complete and return this form to the following email address: [radams@cityofmchenry.org](mailto:radams@cityofmchenry.org). This form shall also be utilized to designate a point of contact for issuing addenda. Upon receipt of the *Notification of Intent to Bid* form, the City will acknowledge its receipt and provide the City's *Authorization to Bid* via e-mail.

Project	Kane Ave. Watermain Replacement
Bidding Contractor	
Contact Name & Title	
Signature	
Email	
Phone	
Date	

**SECTION 00200  
INSTRUCTIONS TO BIDDERS**

ARTICLE 1. DEFINED TERMS. Terms used in these Instructions to Bidders and the Advertisement for Bids which are defined in the General Conditions 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.

ARTICLE 2. INTERPRETATIONS AND ADDENDA. All questions about the meaning or intent of the Contract Documents are to be directed to Engineer. Additions, deletions, or revisions to the Contract Documents considered necessary by the Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the Engineer or Owner as having received the Contract Documents. Questions received less than ten (10) days prior to the date of Bids may not be answered. Only answers to such questions issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

2.1 Addenda may also be issued to make other additions, deletions, or revisions to the Contract Documents.

ARTICLE 3. BIDDER'S EXAMINATION OF CONTRACT DOCUMENTS AND SITE.

3.1 It is the responsibility of each Bidder **before** submitting a Bid:

- A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including "technical" data referred to below);
- B. To visit the site to become familiar with local conditions that may affect cost, progress, or performance, of the Work;
- C. To consider federal, state, and local laws and regulations that may affect cost, progress, or performance of the Work;
- D. To study and carefully correlate the Bidder's observations with the Contract Documents; and
- E. To notify the Engineer of all conflicts, errors, ambiguities, or discrepancies in or between the Contract Documents and such other related data.

3.2 Reference is made to the Supplementary General Conditions for identification of:

- A. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by the Engineer in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such reports. However, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with non-technical data, interpretations, and opinions contained therein or the completeness thereof, is the responsibility of the Bidder.

- B. Those drawings of physical condition in or relating to existing surface and subsurface conditions (except Underground Utilities) which are at or contiguous to the site have been utilized by the Engineer in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such drawings, however, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with non-technical data, interpretations, and opinions contained in such drawings or the completeness thereof, is the responsibility of the Bidder.
- 3.3 Copies of reports and drawings referred to in Paragraph SGC-4.02 of the Supplementary General Conditions will be made available by the Owner to any Bidder at cost of reproduction, if copies are desired. Those reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which the Bidder is entitled to rely, as provided in Paragraph SGC-4.02 of the Supplementary General Conditions.
- 3.4 Information and data reflected in the Contract Documents with respect to Underground Utilities at or contiguous to the site is based upon information and data furnished to the Owner and the Engineer by the owners of such Underground Utilities or others, and neither the Owner nor the Engineer assume responsibility for the accuracy or completeness thereof.
- 3.5 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Utilities, and other physical conditions, and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03 and 4.04 of the General Conditions.
- 3.6 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 Utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the Work and which the Bidder deems necessary to determine its Bid for performing the Work in accordance with the time, price, and other items and conditions of the Contract Documents.
- 3.7 Upon request and a minimum of 2 days notice, the Owner will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Location of any excavation or boring shall be subject to prior approval of Owner and applicable agencies. Bidder shall fill all holes, restore all pavement to match existing structural section, and shall clean up and restore the site to its former condition upon completion of such explorations.
- 3.8 The lands upon which the Work is to be performed, rights-of-way, and easements for access thereto and other land designated for use by the Contractor 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 Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the Owner unless otherwise provided in the Contract Documents.

- 3.9 The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of this Article 3 and the following:
- A. That the Bid is premised upon performing and finishing the Work required by the Contract Documents without exception and applying such means, methods, techniques, sequences or procedures of construction (if any) as may be required by the Contract Documents;
  - B. That Bidder has given the Engineer written notice of all conflicts, errors, ambiguities, and discrepancies in the Contract Documents and the written resolutions thereof by the Engineer is acceptable to the Bidder; and
  - C. That the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performing and furnishing of the Work.

ARTICLE 4. BID FORM AND DELIVERY OF BID. Each prospective Bidder shall be furnished an electronic copy of the Contract Documents as stipulated in the Invitation for Bids. The Bid Form is to be printed, completed in ink and submitted with the Bid Bond. All names must be printed below the signatures.

Each Bid shall be submitted in a sealed envelope with "Bid Proposal" and the "Due" date clearly printed on the front. The Bid Bond shall be submitted in the envelope containing the Bid. When sent by mail, the sealed Bid shall be addressed as follows:

City of McHenry  
Public Works Facility  
1415 Industrial Drive  
McHenry, IL 60050

The Bidder may attach a substitute Proposal Form printed by a computer in lieu of completing the furnished Form. If a substitute Form is used, it shall be attached to the back side of the furnished Form. Such computer printed substitute Proposal Form shall include, but not limited to, the following at the top of each page:

- A. Project Title
- B. Project Number
- C. Letting Date
- D. Bidder's Name and Address

The substitute computer printed Proposal Form shall have column headings that include the Line Number, Item Description, Unit Designation, Approximate Quantity, Unit Bid Price, Amount Bid for each item, Total or Gross Sum Bid below the last Bid Item and Bidder's name, signature in ink and title at the end of the Form. The signature and Total Gross Sum Bid shall also be written in ink on the furnished Proposal Form.

Bids shall be filed prior to the time and at the place specified by the Invitation for Bids. Bid proposals received after the time for opening of Bids will be returned to the Bidder unopened.

In case of a discrepancy between the line number, Bid Item description, and/or quantity shown in the furnished proposal and those shown on the substitute computer printed Proposal Form, the Bid Item description and the quantity shown in the furnished proposal shall govern. The Unit Bid Price shown on the substitute computer printed Proposal Form shall govern whether or not the amount Bid shown is correct. The substitute Proposal Form page size and size of printed characters shall be approximately the same as the furnished Form. Solid lines for separating columns and line numbers need not be printed. Pages must be arranged and numbered the same as those contained in the furnished Proposal Form. Any irregularities, which are not waived by the Owner as a technicality, will result in rejection of the Bid.

#### ARTICLE 5. DISQUALIFICATION OF BIDDERS.

Bids will be considered non-responsive and shall be rejected for any of the following reasons:

More than one Bid from an individual, firm, partnership, corporation or association under the same or different names will not be considered. If the Owner believes that any Bidder is interested in more than one Bid for the Work contemplated, all Bids in which such Bidder is interested will be rejected. If the Owner believes that collusion exists among the Bidders, all Bids will be rejected. A party who has quoted prices to a Bidder is not hereby disqualified from quoting prices to other Bidders, or from submitting a Bid directly for the Work.

If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning, the Bid may be rejected.

If the Bidder submits an obviously unbalanced bid, the Bid may be rejected. An unbalanced bid shall be defined as a bid containing lump sum or unit bid prices which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs and other indirect costs to complete that bid.

#### ARTICLE 6. QUANTITIES OF WORK. Not Used

ARTICLE 7. SUBSTITUTE OR "OR EQUAL" ITEMS. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a particular Supplier and the name is followed by the words "or equal", the procedure for the submittal of substitute or "Or equal" products is specified in Section 01 6000 – Product Requirements.

Bidders wishing to obtain the Engineer's approval for alternative materials or equipment prior to the bid opening shall do so in writing at least 7 days prior to the opening of sealed bids. Approval, if granted, will be made in the form of an Addendum issued by the Engineer to all plan holders of record. If such approval is not granted prior to the opening of the bids, then consideration of the alternative may be made after award of the Contract if beneficial to the Owner.

ARTICLE 8. COMPETENCY OF BIDDERS. In selecting the lowest responsive, responsible Bidder, consideration will be given not only to the financial standing but also to the general competency of the Bidder for the performance of the Work covered by the Bid.

ARTICLE 9. SUBMISSION OF BIDS. The Bid shall be delivered by the time and to the place stipulated in the Invitation for Bids. It is the Bidder's sole responsibility to see that its Bid is received in proper time and at the proper place.

ARTICLE 10. BID SECURITY, BONDS, AND INSURANCE. Each Bid shall be accompanied by a certified or cashier's check or share draft or approved Bid Bond in the amount stated in the Proposal. Said check or bond shall be made payable to the Owner and shall be given as a guarantee that the Bidder, if awarded the Work, will enter into Contract with the Owner, and will furnish the necessary insurance certificates and Performance, Labor, Material, and Maintenance Bond; said bond to be in the amount stated in the Supplementary General Conditions. In case of refusal or failure to enter into said Contract, the check or Bid Bond, as the case may be, shall be forfeited to the Owner. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein, or one conforming substantially to it in form. Bonds shall be issued by a surety authorized to do business in the State of Illinois. Checks or share drafts shall be certified or issued by a State or National bank, or a credit union in Illinois or chartered under the laws of the United States.

ARTICLE 11. DISCREPANCIES IN BIDS. In the event there is more than one Bid Item in a Bid Schedule, the Bidder shall furnish a price for all Bid Items in the Bid Form, and failure to do so will render the Bid non-responsive and may cause its rejection. In the event there are Unit Price Bid Items in a Bid Schedule and the amount indicated for a Unit Price Bid Item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly, and the Bidder shall be bound by said correction. In the event there is more than one Bid Item in a Bid Schedule and the total indicated for the Schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the Schedule will be corrected accordingly, and the Bidder shall be bound by said correction.

ARTICLE 12. MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS. Unauthorized conditions, limitations or provisos attached to the Bid shall render it informal and may cause its rejection as being non-responsive. The completed Bid Form shall be without interlineation, alterations or erasures in the printed text. Alternative Bids will not be considered unless called for. Oral, telegraphic or telephonic Bids or modifications will not be considered.

ARTICLE 13. WITHDRAWAL OF BID. A Bidder may request, without prejudice, to withdraw its Bid after it has been submitted to the Owner, provided such request is made in writing to the Owner prior to the time set for receiving Bids.

Modifications or corrections to Bids may be made on the withdrawn Bid provided such modifications or corrections are initiated by the Bidder and are received by the Owner prior to the time set for receiving Bids. Modifications or corrections to a Bid will not be accepted if the modifications or corrections render the bid security inadequate or if not accompanied by sufficient additional bid security.

If a Bidder has requested in writing to withdraw its Bid, said Bidder may submit a different Bid and Bid security any time prior to the time set for receiving proposals.

ARTICLE 14. AWARD OF CONTRACT. Award of the contract, if awarded, will be made to the lowest responsive, responsible Bidder whose Bid complies with the requirements of the Contract Documents. Unless otherwise specified, any such award will be made within the period stated in the Invitation for Bids that the Bids are to remain open. Unless otherwise

indicated, a single award will be made for all the Bid items in an individual Bid Schedule. The Owner reserves the right to reject any or all Bids, to waive any informality in a Bid and to select alternate additive or deductive Bid items as desired by the Owner to determine the award of the Contract.

ARTICLE 15. RETURN OF BID SECURITY. After the Bids are opened, verified, and duly considered, the bid security will be released pursuant to the provisions of the latest edition of the Illinois Code, including revisions. Should the successful Bidder fail to enter into contract, the Bid guaranty shall be forfeited to the Owner to compensate for administrative expenses of making a re-award or issuing a new request.

ARTICLE 16. EXECUTION OF AGREEMENT. The Bidder to whom award is made shall execute a written Agreement with the Owner on the form of agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Contract Documents within fifteen (15) days after the contract is mailed to the bidder. Failure or refusal to enter into contract as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the Owner may award the Contract to the second lowest, responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the Owner may award the Contract to the third lowest, responsive, responsible Bidder.

ARTICLE 17. ADDENDA. Each Bid Form shall include specific acknowledgment, in the space provided in Section 00400, Bid Form, of receipt of all addenda issued and mailed by the Owner during the bidding period. Failure to so acknowledge may result in the Bid being rejected as not responsive.

ARTICLE 18. SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION. The Contractor shall comply with all state and federal laws and county and local ordinances and regulations which in any manner affect those engaged or employed in the Work.

ARTICLE 19. PRE-BID CONFERENCE. No pre-bid conference will be held for this project. Please submit all questions **in writing** to Russ Adams at City of McHenry, email [radams@cityofmchenry.org](mailto:radams@cityofmchenry.org).

ARTICLE 20. LIQUIDATED DAMAGES. Provisions for liquidated damages, if any, are set forth in the Agreement and the Supplementary General Conditions (SGC-12.03)

ARTICLE 21. FEDERAL TAX ID NUMBER. Each Bidder shall state its Federal Tax Identification Number on the line provided on the Bid Form. The Owner is required to report to IRS on Form 1099 all payments involving labor or services provided by vendors, and lack of this number may delay contract payments until the number is provided.

ARTICLE 22. PREVAILING WAGE ACT. This act stipulates that a wage of no less than the general prevailing hourly rate as paid for work of similar character in the locality, in which the work is performed, shall be paid to all laborers, workers and mechanics employed by or on behalf of any and all public bodies engaged in public works. The scale of wages to be paid shall be updated on a monthly basis or as wages change as documented with the Illinois Department of Labor. The scale of wages shall be posted by the Contractor in prominent and easily accessible places at the site of work. Contractor shall regularly check scale of wages and

update as needed. If the Department of Labor revises the wage rates, the revised rate shall apply to this contract and the contractor or subcontractor will not be allowed additional compensation on account of said revisions. Wage rates are subject to the provisions of the Davis-Bacon Act.

The contractor and each subcontractor working on a City project shall submit a certified payroll each month to the City of McHenry. All laborers, mechanics, and other workers employed by them on the project shall include: name, address, telephone number when available, social security number, classification or classifications, hourly wages paid in each pay period, the number of hours worked each day, and the starting and ending times worked each day. The certified payroll shall be accompanied by a statement signed by the contractor or subcontractor that declares: such records are true and accurate, the hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required, and the contractor or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class B misdemeanor. The contractor and subcontractors submitting their respective payrolls shall sign this certification statement. Upon 2 business days' notice, the contractor and each subcontractor shall make the payroll records available to the City, or the Director of Labor and his deputies and agents. The contractor and each subcontractor shall permit his or her employees to be interviewed on the job, during working hours, by compliance investigators of the Department of Labor. The Contractor shall maintain certified payroll documentation for a period of at least 3 years. The monthly submittal and any additional requests for a certified payroll shall be incidental to the contract.

ARTICLE 23. STORM WATER. The Contractor shall take sufficient precautions to prevent the pollution of streams, lakes, wetlands and storm sewers.

To insure a prompt response to incidents involving storm water runoff, the Contractor shall provide a telephone number where a responsible individual can be contacted 24 hours a day.

When the Engineer is notified, or determines a storm water deficiency exists, the Engineer will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from ½ hour to 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

If the Contractor fails to correct the deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day, or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be either \$1,000 or 0.5% of the awarded contract value whichever is greater.

In addition, if the Contractor fails to respond, the Engineer may correct the deficiency and the cost thereof will be deducted from monies due or which may become due the Contractor. This corrective action will in no way relieve the Contractor of their contractual requirements of responsibilities.

ARTICLE 24. CONSTRUCTION DEBRIS. The Contractor shall not conduct any generation, transportation, or recycling of construction or demolition debris, clean or general or uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures and roads that is not commingled with any waste, without the maintenance of

documentation identifying the hauler, generator, place of origin of the debris or soil, the weight or volume of the debris or soil, and the location, owner, and operator of the facility where the debris or soil was transferred, disposed, recycled or treated. The Contractor must maintain this documentation for a period of at least 3 years.

ARTICLE 25. BIDDER'S CERTIFICATION.

QUALIFICATION OF BIDDER:

Bidder shall certify that they he is, at the time of bidding, and shall be, throughout the period of the contract, licensed in the State of Illinois. The Bidder shall provide its Illinois Contractor license number on the Bid Form. Bidder shall further certify that he is skilled and regularly engaged in the general class and type of work called for in the Contract Documents.

Bidder also certifies that they are knowledgeable of the unusual and peculiar hazards associated with the general class and type of work required to construct the specified project within the terms given in the Contract Documents.

Bidder shall be competent and skilled in the protective measures necessary for the safe performance of the construction Work with respect to such unusual and peculiar hazards.

**END OF SECTION 00200**



www.msetinc.com

**MIDLAND STANDARD ENGINEERING & TESTING, INC.**

410 Nolen Drive, South Elgin, Illinois 60177  
(847) 844-1895 f(847) 844-3875

April 26, 2024

Mr. Andy Lemke

**HR Green, Inc.**

1391 Corporate Drive, Suite 203

McHenry, Illinois 60050

alemke@hrgeeen.com

Re: Subsurface Exploration and Analysis  
**Kane Avenue Watermain Replacement**  
McHenry, Illinois  
MSET File No. 24333

Dear Mr. Lemke:

Midland Standard Engineering & Testing, Inc. has conducted a subsurface exploration and laboratory analysis for the above referenced project.

INTRODUCTION

Purpose and Scope

The purpose of this exploration and analysis was to determine the various components of the soil, the engineering characteristics of the materials, and to provide soil parameters for the watermain replacement.

The scope of this exploration included a geological reconnaissance of the site, a review of available soil information, subsurface exploration, soil testing, and an engineering analysis and evaluation of the materials encountered.

General

The exploration and analysis of the foundation and subsurface conditions reported herein are considered in sufficient detail and scope for analysis. This report has been prepared for the exclusive use and specific application to the proposed project.

The recommendations submitted are based on the available soil information, standard utility construction practices, and available site location information. Any revision in the plans for the proposed structures from those enumerated in this report should be brought to the attention of the Soils Engineer to determine if changes in the recommendations are required. Any deviations from the noted subsurface conditions that are encountered during construction should also be brought to the attention of the Soil Engineer.

The Soils Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been promulgated after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties are implied or expressed.

### PROJECT LOCATION AND DESCRIPTION

#### Project Location and Description

The project site is a section of proposed watermain located approximately one mile southwest of downtown McHenry, Illinois. The watermain alignment extends from the west side of Kane Avenue, under the Union Pacific Railroad tracks and the Prairie Trail bike path, and terminating near the water tower on Sioux Lane in McHenry, Illinois. The watermain is planned to be installed using augered and jacked procedures beneath the railroad tracks and bike path. The approximate length of installation is 150 feet.

### FIELD EXPLORATION

#### General

The exploration program consisted of two (2) structure borings to a depth of twenty-five (25) feet below ground surface. An MSET field crew staked the boring locations at the site. Ground surface elevations at the boring locations were determined using a Trimble GNSS Catalyst Receiver.

#### Drilling Equipment

The soil borings were drilled using an ATV-mounted Geoprobe® 7822 drill rig equipped with a rotary head. Hollow stem augers were used to advance the boreholes.

#### Sampling and Standard Penetration Test Procedures

Representative samples were obtained by the use of split-spoon sampling procedures in accordance with ASTM Procedure D1586.

During the split spoon sampling procedures, a standard penetration test was performed in accordance with current ASTM D1586 procedures. At sampling intervals, advancement of the boring was stopped and all loose material removed from the borehole. The sampler was then lowered into the borehole and seated in undisturbed soil by pushing or tapping, taking suitable precautions that the rods were reasonably tight. The sampling spoon was then driven using an automatic drop hammer. During the sampling procedure, the standard penetration value (N) of the soil was determined. The standard penetration value (N) is defined as the number of blows of a one hundred forty-pound (140 lb) hammer required to advance the spoon sampler one foot (12") into the soil.

The results of the standard penetration tests indicate the relative density and comparative consistency of the soils and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components. The results of the standard penetration tests can be found on the attached boring logs.

### Strength Tests

During the field boring operations, samples of the predominantly cohesive soil from the split spoon sampling device were tested using a calibrated soil penetrometer to aid in determining the strength of the soil. Consideration must be given to the manner in which the values of the unconfined compressive strengths were obtained. Split spoon sampling techniques provide a representative, but somewhat disturbed soil sample.

### Water Level Measurements

Water level observations were made during and immediately after the boring operations were completed and are noted on the attached boring logs. In relatively pervious (granular) soils, the indicated elevations are considered reliable groundwater levels. In relatively impervious (clay) soils, the accurate determination of the groundwater elevation may not be possible, even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table and volumes of water will depend on the permeability of the soils.

## LABORATORY TESTING

### Scope

A supplemental testing program was conducted to ascertain additional pertinent engineering characteristics of the subgrade and foundation materials necessary in analyzing the behavior of the proposed construction. The soils laboratory work was performed in accordance with applicable ASTM standards. The laboratory-testing program included visual classification; moisture content determination for each sample obtained, and unconfined compression testing for applicable samples. The results of laboratory testing are reported on the attached boring logs.

## SUBSURFACE CONDITIONS

### Soil Profile

The soil profile encountered at boring locations consists of:

#### *Boring B-1 – West Jacking Pit*

The ground surface at the west jacking pit (Boring B-1) is approximately 5 feet higher than that at the east pit. The surficial soil consists of a 5-inch thick layer of Black Clayey Topsoil over a 2-foot thick layer of Fill: Very Dark Brown Clay (CL). The Fill is underlain by a 2.5-foot thick deposit of stiff Brown Clay to a depth of 5 feet. The Fill and Clay possesses moisture contents of 20 to 22 percent and unconfined compressive strengths of 1.7 to 1.75 tons per square foot (tsf).

The surficial deposits are underlain by a complex layered system of very loose Sand (SP), stiff Silty Clay (CL-ML), medium to dense Sand (SW or SP-SM), and very stiff to hard Clay (CL) to boring termination to a depth of 25 feet below existing grade. Between a depth of 5 feet and 8 feet, the deposits include very loose Sand (SP) and very stiff Clay (CL) that possess SPT N-Values ranging from 2 to 4 blows per foot (bpf) and moisture contents of 8 to 28 percent. Below a depth of 8 feet, the deposits possess SPT N-Values ranging from 18 to 45 bpf and moisture contents ranging from 4 percent above the groundwater level to 9 to 21 percent below the groundwater level. The cohesive deposits possess unconfined compressive strengths of 1.55 to greater than 4.5 tsf.

---

***Boring B-2 – East Jacking Pit***

The surficial soil at the east jacking pit consists of a 7.5-inch thick layer of Black Sandy Topsoil over 8 feet of Fill: Brown and Black Silty Clay (CL-ML) and Silty Sand (SM). The deposits possess SPT N-values ranging from 3 to 5 bpf and moisture contents of 12 to 18 percent.

Similar to the soil conditions at the west jacking pit, the Fill is underlain by a complex layered system of slightly dense to dense Sand (SP or SW-SM), medium dense Silt (ML) and stiff Silty Clay (CL-ML) to a depth of 25 feet below existing grade. The deposits possess SPT N-Values ranging from 8 to 37 bpf and moisture contents ranging from 11 to 24 percent below the groundwater level.

**Groundwater Conditions**

Groundwater was encountered during drilling at a depth of 13.5 feet (Elev. 754.2) at Boring B-1 and at a depth of 8.5 feet (Elev. 753.9) in Boring B-2. Water levels measured immediately after auger removal approximated the during drilling levels. Details of the groundwater measurements at each boring location are presented on the attached Boring Logs.

**DISCUSSION AND RECOMMENDATIONS**

**Watermain Invert Conditions**

**Design Discussion**

The project will include the installation of a new twelve (12) inch diameter watermain under the UPRR tracks and the Prairie Trail path. The watermain will be installed in a casing that will be installed in an augered and jacked procedure. The design grades are as follows:

Boring Number	Location	Top-of-Pipe Elev.	Groundwater Elev.	Soil Description
B-1	Jacking Pit West Side of UPRR Tracks	761.45	754	Very Loose SAND (SP) and Very Stiff Lean CLAY (CL)
B-2	Jacking Pit East Side of UPRR Tracks	757.09	754	Fill: Very Loose Silty SAND (SM)

Pipe support should be developed by providing a minimum of six (6) to eight (8) inches of IDOT CA-05 or CA-07 bedding layer.

**Trenchless Excavation**

All work should be performed in accordance with Chapter 1, Part 4.20 'Earth Boring and Jacking of Culvert Pipes' of the current American Railway Engineering and Maintenance Association (AREMA) manual. Plans indicate dry augering methods to be utilized which include boring using an auger without drilling fluids. The process will include installing steel casing as the augers are advanced. Spoils are removed back to the drive shaft through the auger flights inside the steel casing.

**Excavation Bracing**

**Soil Parameters for Temporary Construction Excavation Bracing**

Excavations at the site are anticipated to extend through shallow depth clay layers and then into water bearing granular soils. OSHA requirements dictate the use of sloping back or shoring and bracing of the excavation during construction. All work should be performed in accordance with OSHA and local requirements.

Soil parameters for the design of temporary sheet pile construction bracing are listed below. The wall design should include ground water pressure and the effects of surcharge loads and live loads, on the ground surface behind the wall. The additional loading of unbalanced ground water levels from construction dewatering should also be addressed.

<u>Soil Description</u>	<u>Elevation</u>	<u>Moist Unit Weight (pcf)<sup>1</sup></u>	<u>Total Shear Strength</u>		<u>Earth Pressure Coeff.</u>		<u>Interface Friction Angle or Adhesion</u>
			<u>c (psf)</u>	<u>φ'</u>	<u>Ka</u>	<u>Kp</u>	
<b><i>B-1 – West Jacking Pit</i></b>							
CLAY CL	767 to 759	120	1700	0°	1.00	1.00	700 psf
SAND SW	759 to 757	130	0	33°	0.29	3.39	11°
CLAY CL	757 to 754	135	1500	0°	1.00	1.00	700
CLAY CL	754 to 752	73	4500	0°	1.00	1.00	3000
SAND SP-SM	752 to 749	68	0	34°	0.28	3.57	11°
CLAY CL	749 to 744	73	4500	0	1.00	1.00	3000
SAND SW	744 to 742	68	0	35°	0.27	3.69	17°
<b><i>B-2 – East Jacking Pit</i></b>							
SANDY SILTY CLAY CL-ML	762 to 759	130	750	0	1.00	1.00	400 psf
SILTY SAND SM	759 - 754	115	0	27°	0.37	2.66	11°
SAND to SILT SP/ML	754 - 747	53	0	30°	0.33	3.00	11°
SILTY CLAY CL-ML	747 to 744	73	1750	0°	1.00	1.00	700 psf
SAND with SILT SW-SM	744 to 737	68	0	36°	0.26	3.85	14°

**Notes**

1. The ground water level was measured in the borings at approximate elevation 754. Submerged unit weight used below this elevation.

---

Excavation Conditions and Dewatering

Excavations to depths in the range of 10 to 15 feet are anticipated for the jacking pits. Water bearing sands were noted at approximate elevation 754 to 755 and will be exposed during construction. Dewatering of the site will be necessary to control groundwater entering the excavations. Dewatering of the site to depths of 1 to 2 feet below groundwater level will likely require a combination of sumps and pumps at the bottom of the excavation. Excavations to a depth of more than a few feet below groundwater level will require well points to lower the groundwater table around the excavation and/or sheet piling to cut off the water bearing granular soil layers.

Closure

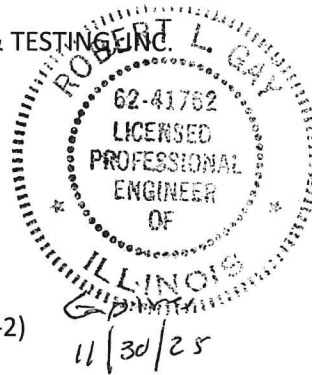
This report is based on the information available at this time. If you have any questions regarding this report, please feel free to call.

Sincerely,

MIDLAND STANDARD ENGINEERING & TESTING, INC.



Robert L. Gay, P.E.  
Sr. Geotechnical Engineer



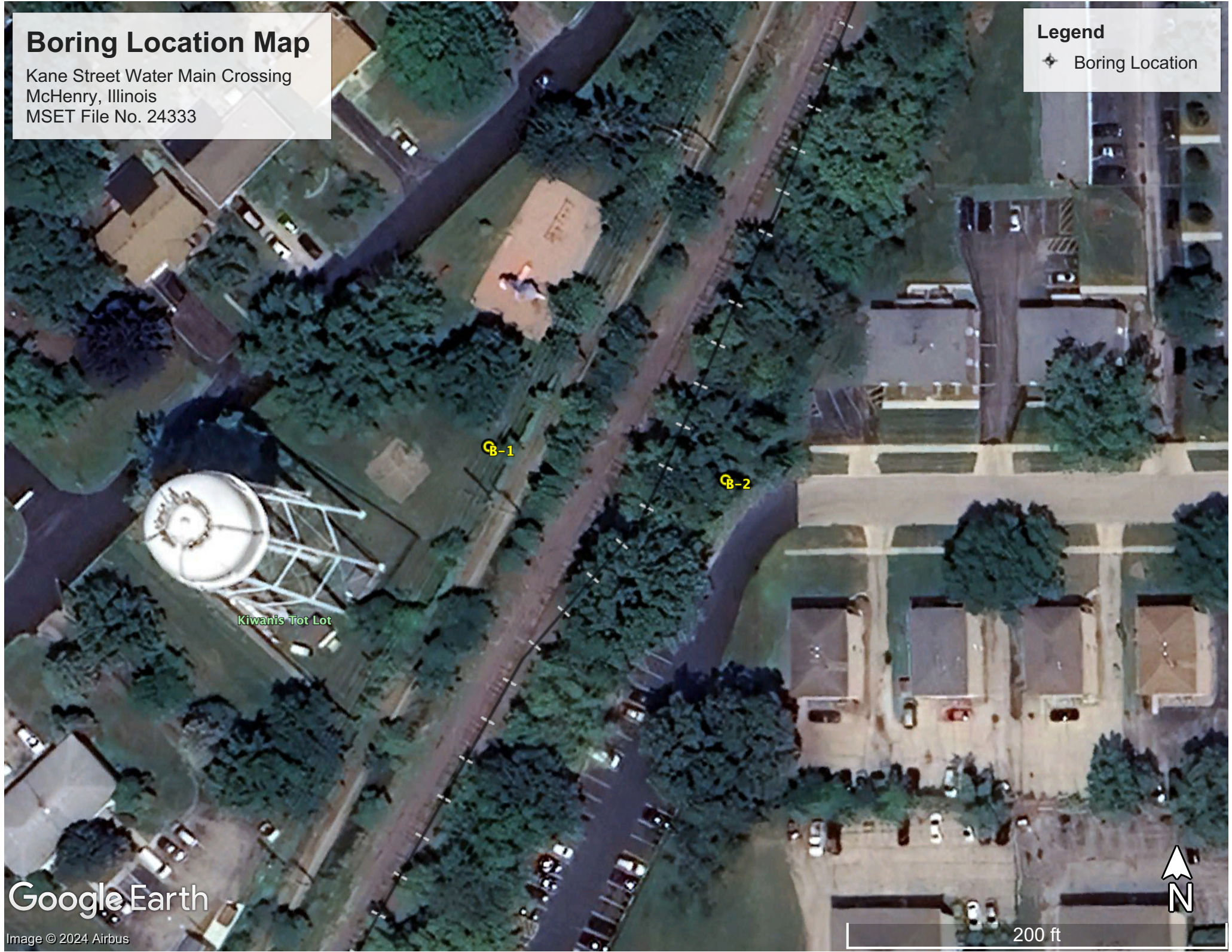
Attachments: Boring Location Map  
Boring Log (B-1 and B-2)  
General Notes

# Boring Location Map

Kane Street Water Main Crossing  
McHenry, Illinois  
MSET File No. 24333

## Legend

✦ Boring Location

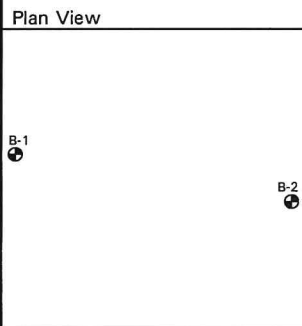
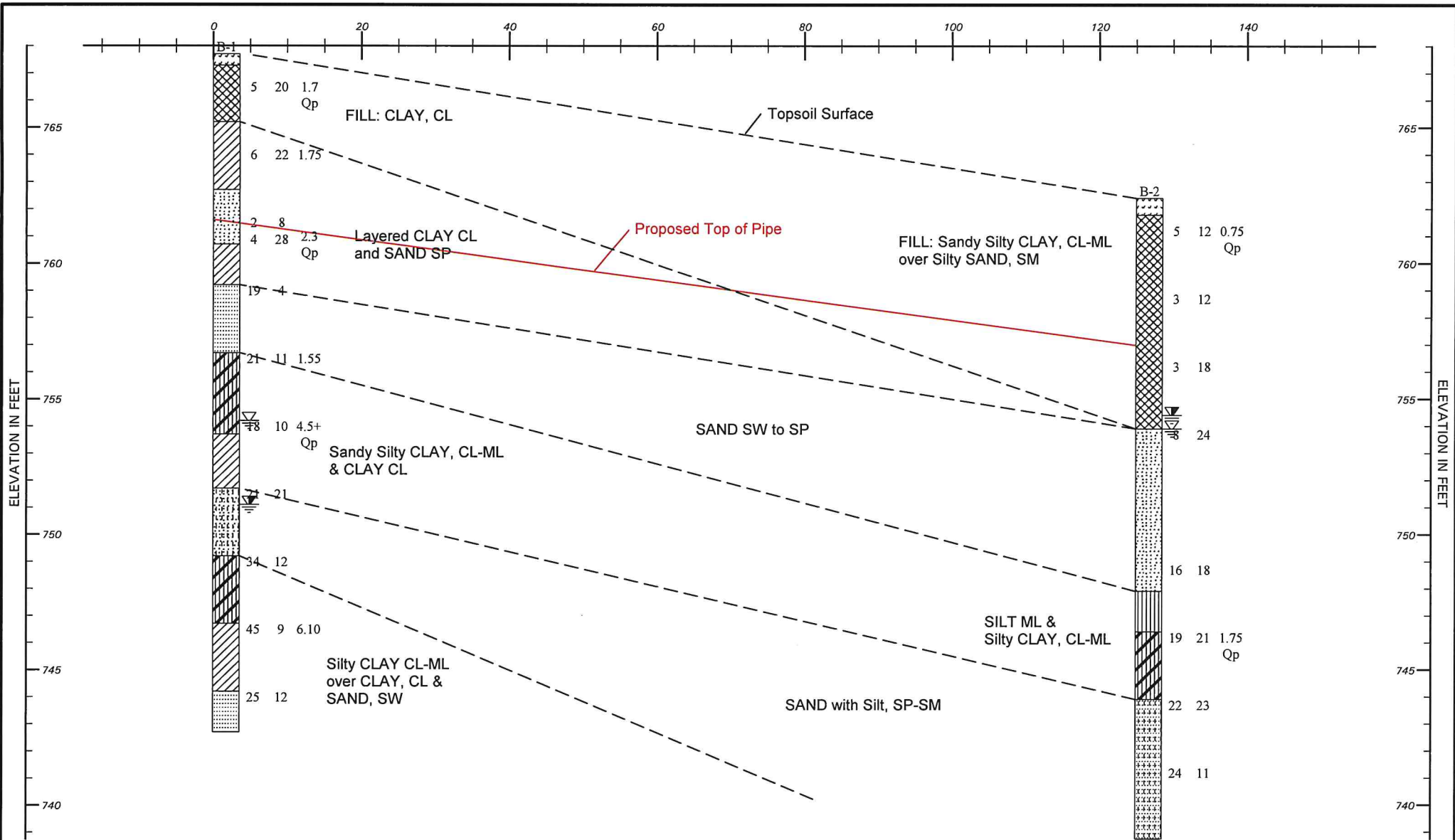


Kiwanis Tot Lot

Google Earth

Image © 2024 Airbus

200 ft



<b>Midland Standard Engineering &amp; Testing</b>		
<b>GENERALIZED SOIL PROFILE</b>		
HORIZONTAL SCALE: 1"=(proportional)	DRAWN BY/APPROVED BY	DATE DRAWN
VERTICAL SCALE: 1"=5'		4/26/2024
Kane St Water Main Crossing		
PROJECT NO. 24333		FIGURE NUMBER

PROJECT: **Kane St Water Main Crossing** SITE LOCATION: **McHenry, IL**  
 BORING LOCATION: CLIENT: **HR Green**

DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE			TESTS			REMARKS
				TYPE/ INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf	Unconfined Compressive Strength, tsf	
0		5" Black TOPSOIL	767.7							
		Possible FILL - Very Dark Brown and Grey Lean CLAY with Sand, CL, stiff	767.3	SS	1	5	20			1.7 Qp
3.5		Brown Lean CLAY with Sand, CL, stiff	765.2	SS	2	6	22	96		1.75
		Brown (f-m) SAND, SP, very loose	762.7							
7		Brown and Grey Lean CLAY with (f-m) Sand, CL, very stiff	760.7	SS SS	3A 3B	2 4	8 28			2.3 Qp
		Brown (f-c) SAND, SW, medium dense	759.2	SS	4	19	4			
10.5		Brown (f-c) Sandy Silty CLAY, CL-ML, medium dense	756.7	SS	5	21	11	130		1.55
14		Grey (f-c) Sandy Lean CLAY, CL, hard	753.7	SS	6	18	10			4.5+ Qp
17.5		Grey (f-m) SAND with Silt, SP-SM, medium dense	751.7	SS	7	21	21			
		Grey Silty CLAY with (f) Sand, CL-ML, dense	749.2	SS	8	34	12	126		
21		Grey (f-c) Sandy Lean CLAY, CL, hard	746.7	SS	9	45	9	137		6.10
24.5		Grey (f-c) SAND, wet, SW, medium dense	744.2	SS	10	25	12			
		End of Boring at 25.0'	742.7							

<b>WATER LEVEL OBSERVATIONS, ft.</b> DURING DRILLING:  13.5' IMMEDIATELY AFTER DRILLING:  16.6' DELAYED READING AFTER 		<b>BORING STARTED:</b> <u>4/12/24</u> <b>BORING COMPLETED:</b> <u>4/12/24</u> <b>LOGGED BY:</b> <u>MM</u> <b>BORING METHOD:</b> <u>HSA</u>
--	---	---

PROJECT: **Kane St Water Main Crossing** SITE LOCATION: **McHenry, IL**  
 BORING LOCATION: CLIENT: **HR Green**

DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE			TESTS			REMARKS
				TYPE/ INTERVAL	NO.	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf	Unconfined Compressive Strength, tsf	
0		7.5" Black Sandy TOPSOIL	762.4							
		FILL - Brown and Black Sandy Silty CLAY, trace roots, CL-ML, slightly dense	761.8	SS	1	5	12		0.75 Qp	
3.5		FILL - Brown and Black (f-c) Silty SAND, SM, very loose	759.4	SS	2	3	12			
		FILL - Brown (f-c) Silty SAND, trace roots, moist, SM, very loose	757.4	SS	3	3	18			poor recovery
7		Brown (f-m) SAND, wet, SP, slightly dense to medium dense, saturated 2" brown silty clay seam 9'-9.2'	753.9	SS	4	8	24			Cave in at 8.6'
10.5				SS	5					skipped sample due to blow in
14		Brown SILT with (f-m) Sand, ML, medium dense	747.9	SS	6	16	18			
17.5		Brown Silty CLAY with (f-m) Sand, CL-ML, medium dense	746.4	SS	7	19	21		1.75 Qp	
		Brown (f-c) SAND with Silt, SW-SM, medium dense	743.9	SS	8	22	23			
21		Brown (f-c) SAND with Silt and Gravel, SW-SM, medium dense to dense	741.4	SS	9	24	11			brown lean clay seam at 21.5'
24.5				SS	10	37	11			hard brown clay in spoon at 25'
		End of Boring at 25.0'	737.4							

<b>WATER LEVEL OBSERVATIONS, ft.</b> DURING DRILLING:  8.5' IMMEDIATELY AFTER DRILLING:  8' DELAYED READING AFTER 		<b>BORING STARTED:</b> <u>4/12/24</u> <b>BORING COMPLETED:</b> <u>4/12/24</u> <b>LOGGED BY:</b> <u>MM</u> <b>BORING METHOD:</b> <u>HSA</u>
--	---	---

## GENERAL NOTES

### PARTICLE SIZE DESCRIPTION & TERMINOLOGY

Coarse Grained or Granular Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays or clayey silts if they are cohesive and silts if they are non-cohesive. In addition to gradation, granular soils are defined on the basis of their relative in-place density and the fine grained soils on the basis of their strength or consistency and their plasticity.

Major Component of Sample	Size Range	Descriptive Term of Components Also Present in Sample	Approximate Quantity (Percent)
Boulders	Over 8 in. (200 mm)		
Cobbles	8 inches to 3 inches (200 mm to 75mm)	Trace	1 - 9
Gravel	3 inches to #4 sieve (75mm to 4.75mm)	Little	10 - 19
Sand	#4 to #200 sieve (4.75mm to 0.075mm)	Some	20 - 34
Silt	Passing #200 sieve (0.075mm to 0.002mm)	And	35 - 50
Clay	Smaller than 0.002mm		

### RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

#### GRANULAR SOILS

DENSITY CLASSIFICATION	APPROXIMATE RANGE OF N *
Very Loose	0 - 3
Slightly Dense	4 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	50 - 80
Extremely Dense	80 +

#### COHESIVE SOILS

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH, $Q_u$ - TSF	APPROXIMATE RANGE OF N *
Very Soft	0.25	0 - 2
Soft	0.25 - 0.49	3 - 4
Firm	0.50 - 0.99	5 - 8
Stiff	1.00 - 1.99	9 - 15
Very Stiff	2.00 - 3.99	16 - 30
Hard	4.00 - 8.00	31 - 50
Very Hard	8.00 +	Over 50

\* STANDARD PENETRATION TEST (ASTM D1586) - A 2.0" outside-diameter, split barrel sampler is driven into undisturbed soil by means of a 140 pound weight falling freely through a vertical distance of 30 inches. The sampler is normally driven 3 successive 6 inch increments. The total number of blows required for the final 12 inches of penetration is the Standard Penetration Resistance (N).

**SECTION 00400**  
**BID FORM**

BID TO: City of McHenry  
Public Works Facility  
1415 Industrial Drive  
McHenry, IL 60050

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the OWNER in the form included in the Contract Documents to perform the WORK as specified or indicated in said Contract Documents entitled:

**Kane Ave. Watermain Replacement**

2. Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the Invitation for Bids and Instructions to Bidders, dealing with the disposition of the Bid Security.
3. Schedule of prices for construction of the Kane Ave. Watermain Replacement, in accordance with the Contract Documents.

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	TOTAL
1	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	5	
2	DEWATERING	L SUM	1	
3	CLEARING & GRUBBING	SQ YD	40	
4	FURNISH AND PLACING TOPSOIL, 4"	SQ YD	280	
5	SEEDING, CLASS 1	ACRE	0.06	
6	NITROGEN FERTILIZER NUTRIENT	POUND	6	
7	POTASSIUM FERTILIZER NUTRIENT	POUND	6	
8	EROSION CONTROL BLANKET (EXCELSIOR)	SQ YD	280	
9	PERIMETER EROSION BARRIER	FOOT	100	
10	WATER MAIN, 8", PVC (C-900)	FOOT	37	
11	WATER MAIN, 12", PVC (C-900)	FOOT	83	

ITEM NO.	ITEM DESCRIPTION	UNIT	QTY	TOTAL
12	WATER MAIN, 12", PVC (C-900) (TRENCHLESS)	FOOT	105	
13	24" STEEL CASING WITH SPACERS	FOOT	103	
14	PRESSURE VALVE INSERT, 6 INCH	EACH	1	
15	VALVE VAULTS, TYPE a, 4'- DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	
16	CONNECTION TO EXISTING WATER MAIN 12"	EACH	2	
17	DUCTILE IRON SLEEVE, 12"	EACH	2	
18	CUT AND CAP EXISTING 6" WATER MAIN	EACH	2	
19	CUT AND CAP EXISTING 12" WATER MAIN	EACH	2	
20	WATER MAIN TO BE ABANDONED, 6"	FOOT	62	
21	WATER MAIN TO BE ABANDONED, 12"	FOOT	130	
22	EXIST VALVE IN VAULT TO BE ABANDONED	EACH	1	
23	VALVE VAULTS TO BE ABANDONED	EACH	1	
24	EXPLORATION TRENCH (SPECIAL)	FOOT	20	
25	WOOD GUARDRAIL REMOVAL AND REINSTALLATION	FOOT	10	
26	PRECONSTRUCTION VIDEO TAPING	L.SUM	1	
27	TRAFFIC CONTROL AND PROTECTION	L.SUM	1	
28	MOBILIZATION	L SUM	1	
29	CONSTRUCTION LAYOUT	L SUM	1	
30	TRACK & GROUND MONITORING	L SUM	1	
31	UNION PACIFIC'S RAILROAD FLAGGING	Allowance	1	\$20,000
<b>TOTAL:</b>				

TOTAL CONTRACT PRICE (the sum of the extensions):

\_\_\_\_\_ Dollars and \_\_\_\_\_ Cents  
(in writing) (in writing)

\_\_\_\_\_ Dollars and \_\_\_\_\_ Cents  
(in figures) (in figures)

If there is a "Last Minute" change in a price for an item in this Schedule of Prices, Bidder may utilize the item below to avoid changing the tabulated extension of the affected Unit Price Item and resulting Contract Price Total. The amount, if any, shown in the item below shall be added or deducted to the Total Contract Price for the Work, as indicated by Bidder by placing an "X" in the applicable box or boxes below. **Any Bidder's Proposal that fails to indicate whether the amount or amounts shown are to be added to or deducted from the Contract Price Total for such Unit Price Item may be rejected or may be interpreted as a "deduct."**

We will  ADD \$ \_\_\_\_\_  
or

DEDUCT \$ \_\_\_\_\_

for

\_\_\_\_\_  
(Describe the Unit Price Item No. and/or Basis for the Change)

We will  ADD \$ \_\_\_\_\_

or

DEDUCT \$ \_\_\_\_\_

for

\_\_\_\_\_  
(Describe the Unit Price Item No. and/or Basis for the Change)

We will  ADD \$ \_\_\_\_\_

or

DEDUCT \$ \_\_\_\_\_

for

\_\_\_\_\_  
(Describe the Unit Price Item No. and/or Basis for the Change)

**NOTE: THE AMOUNT OR AMOUNTS SHOWN TO BE ADDED TO OR DEDUCTED FROM THE CONTRACT PRICE TOTAL FOR SUCH UNIT PRICE ITEM (I) SHALL NOT BE UTILIZED AS AN ALTERNATE TO SUPPLYING A SEPARATE REQUESTED**

**PRICE FOR EACH AND EVERY ITEM NAMED IN THE BIDDER'S PROPOSAL FORM AND (II) SHALL BE BASED ON UNIT PRICE ITEMS THAT FULLY COMPLY, WITHOUT EXCEPTION, TO THE SPECIFICATIONS INCLUDED IN THIS BID PACKAGE AND ALL OTHER REQUIREMENTS OF THE CONTRACT.**

**BASIS FOR DETERMINING PRICES**

It is expressly understood and agreed that:

1. The approximate quantities set forth in this Schedule of Prices for each Unit Price Item are Engineer's estimate only, that Owner reserves the right to increase or decrease such quantities, and that payment for each Unit Price Item shall be made only on the actual number of acceptable units of such Unit Price Item installed complete in place, measured on the basis defined in the Contract;
2. The Price Proposal includes allowances for contingencies as Bidder deems appropriate with respect to such risks and changes in the Work that Bidder or Contractor, as the case may be, is responsible for dealing with under the Contract without any equitable adjustment in the Contract Price;
3. Bidder or Contractor, as the case may be, shall be compensated only in accordance with the Contract and shall not be entitled to equitable adjustments in the Contract Price as a result of any claims by Subcontractors or Suppliers arising only under their Subcontracts and not provided for in the Contract;
4. Owner is not subject to state or local sales, use and excise taxes and no such taxes are included in this Schedule of Prices;
5. All other applicable federal, state, and local taxes of every kind and nature applicable to the Work as well as all taxes, contributions, and premiums for unemployment insurance, old age or retirement benefits, pensions, annuities, or other similar benefits are included in this Schedule of Prices; and
6. All costs, royalties, and fees arising from the use on, or the incorporation into, the Work of patented equipment, materials, supplies, tools, appliances, devices, processes, or inventions are included in this Schedule of Prices.

All claim or right to dispute or complain of any such estimated quantity, or to assert that there was any misunderstanding in regard to the nature or amount of any Unit Price Item to be provided or performed, or to claim any additional compensation by reason of such risks,

changes, and Subcontractor or Supplier claims, or payment of any such tax, contribution, or premium or any such cost, royalty or fee is hereby waived and released.

4. The basis of contract award, if awarded, will be the lowest responsive, responsible bidder that is determined to be in the best interest of the Owner. The Owner reserves the right to reject any and all bids.

5. Name of person who inspected site of proposed WORK for your firm:

Name: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_

6. Project Experience: List three previous projects of similar scope and nature (include project name, brief description, owner, contact person, and phone number) for verification:

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

7. Bidder has examined copies of all the Contract Documents including the following addenda (receipt of all of which is hereby acknowledged):

Number	_____	Date	_____
	_____		_____
	_____		_____

8. Failure to acknowledge addenda may render the Bid non-responsive and be cause for its rejection. Bidder has familiarized itself with the nature and extent of the Contract Documents, WORK, site, locality where the WORK is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations), and the conditions affecting cost, progress or performance of the WORK and has made such independent investigations as Bidder deems necessary.

To all the foregoing, and including all Bid Forms contained in this Bid, said Bidder further agrees to complete the WORK required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefore the Contract Price based on the Total Bid Price(s) named in the aforementioned Bid Form.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2025

By: \_\_\_\_\_  
(Firm Name)  
\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Typed or Printed Name)  
\_\_\_\_\_  
(Title)

- (1) BIDDER's name and address:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- (2) BIDDER's telephone numbers, fax numbers and e-mail address:  
\_\_\_\_\_  
\_\_\_\_\_
- (3) Federal Tax I.D. No.:  
\_\_\_\_\_  
(DO NOT OMIT)

**END OF SECTION 00400**

**SECTION 00430  
BID BOND**

KNOW ALL MEN BY THESE PRESENTS; That we \_\_\_\_\_,  
of \_\_\_\_\_ as Principal, and \_\_\_\_\_,  
of \_\_\_\_\_, as Surety, are held and firmly bound unto the City  
of McHenry hereinafter referred to as the Obligee, in the penal sum of  
\_\_\_\_\_, (\$ \_\_\_\_\_)  
for which payment said Principal and Surety bind themselves, their heirs, executors,  
administrators, successors, and assigns jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting their sealed proposal for constructing the  
Kane Ave. Watermain Replacement as described in Section 00100 Invitation for Bids.

Date of Letting: December 6, 2024

NOW THEREFORE, if the said proposal bid by said Principal is accepted, and the Principal  
shall enter into a contract with the Obligee in accordance with the terms of such bid, and shall  
post the Performance and Maintenance Bond and Payment Bond required by the contract  
documents with good and sufficient surety for the faithful performance of such contract, for the  
prompt payment for all labor and material furnished in the prosecution thereof and for the  
maintenance of the improvements in good repair and specified working conditions for two (2)  
year(s) after final acceptance of the project by the Obligee, then this obligation shall become  
null and void, or in the event of the failure of the Principal to enter such contract and give such  
Performance and Maintenance Bond and Payment Bond, the Principal and Surety on these  
bonds hereby agree to pay to the Obligee the full amount of this bid bond, together with court  
costs, attorney's fees, and any other expense of recovery.

IN WITNESS WHEREOF, the Principal and Surety have caused these presents to be signed  
this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

\_\_\_\_\_  
Principal  
By \_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
\_\_\_\_\_  
Surety

**END OF SECTION 00430**

**SECTION 00510  
NOTICE OF AWARD**

TO: TBD.  
TBD  
TBD

The extent of Work on this project is the furnishing of all labor, equipment, and materials for the construction of Kane Ave. Watermain Replacement for the City McHenry, generally described as follows:

- Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
- Abandon approximately 192 Lin Ft of watermain,
- Install 8" insertion valve,
- Jack and bore 24" Steel casing under Union Pacific railroad,
- Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

The Owner has considered the Bid submitted by you for the above-described Work.

You are hereby notified that your Bid has been accepted for items in the amount of \_\_\_\_\_, (\$\_\_\_\_\_).

You are required by the Instruction to Bidders to execute the Agreement and furnish the required Contractor's Performance and Maintenance Bond, Payment Bond and Certificates of Insurance within fifteen (15) calendar days after contract is mailed to the bidder.

If you fail to execute said Agreement and to furnish said Bonds within fifteen (15) calendar days after the contract is mailed, 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 \_\_\_\_\_, 2025.

**City of McHenry**

By Russ Adams

Title Acting Director of Public Works

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

<<CONTRACTOR>>.

this the \_\_\_\_ day of \_\_\_\_\_, 2025.

By \_\_\_\_\_  
<<Name>>,  
<<Title>>

**END OF SECTION 00510**

**SECTION 00520  
AGREEMENT**

THIS AGREEMENT is dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 2025, by and between the City of McHenry (hereafter called Owner) and \_\_\_\_\_ (hereafter called Contractor).

Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**ARTICLE 1. WORK.**

Contractor shall complete all Work as specified or indicated under the Contract Documents entitled Kane Ave. Watermain Replacement generally described as follows:

- Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
- Abandon approximately 192 Lin Ft of watermain,
- Install 8" insertion valve,
- Jack and bore 24" Steel casing under Union Pacific railroad,
- Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

**ARTICLE 2. CONTRACT TIMES.**

All time limits for Milestones, if any, Substantial Completion, and completion for readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

Work shall be commenced upon written Notice to Proceed to be issued on or before February 21, 2025. Subject to any extension of time, which may be granted by the OWNER, the work will be substantially complete by April 16, 2025, and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions by May 14, 2025.

**ARTICLE 3. LIQUIDATED DAMAGES.**

Contractor and Owner recognize that time is of the essence as stated in Article 2 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Article 2 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize 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, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner \$1,500.00 for each day that expires after the time specified in Article 2 above 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 \$500.00 for each day

that expires after the time specified in Article 2 above for completion and readiness for final payment until Work is completed and ready for final payment.

#### ARTICLE 4. CONTRACT PRICE.

Owner shall pay Contractor for completion of the Work pursuant to the Contractor's Bid Form and in accordance with the Contract Documents in current funds as follows:  
\_\_\_\_\_, (\$\_\_\_\_\_)

#### ARTICLE 5. PAYMENT PROCEDURES.

Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

#### ARTICLE 6. ASSIGNMENT.

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

Owner and contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

#### ARTICLE 7. CONTRACT DOCUMENTS.

The Contract Documents, which comprise the entire contract between Owner and Contractor concerning the Work, consist of this Agreement; Performance and Maintenance Bond and Payment Bond; Notice to Proceed; General Conditions; Supplemental Conditions; and Drawings and Specifications, Contractor's Bid Form, and all written amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraph 3.04 of the General Conditions, which may be fully executed after the effective date of the Agreement, for the said project.

IN WITNESS WHEREOF, owner and contractor have caused this Agreement to be executed the day and year first above written.

City of McHenry

<<CONTRACTOR>>.

By \_\_\_\_\_

By \_\_\_\_\_

Mayor

<<NAME>>

<<TITLE>>

CORPORATE SEAL

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

Printed Name:

Title:

Address for giving notices

Address for giving notices

City of McHenry

<<NAME, TITLE>>

Village Hall

<<CONTRACTOR>>

333 South Green Street

<<ADDRESS>>

McHenry, IL 60050

<<ADDRESS>>

**END OF SECTION 00520**

**SECTION 00550  
NOTICE TO PROCEED**

TO: TBD.  
TBD  
TBD

DATE: , 2025

Kane Ave. Watermain Replacement  
City of McHenry  
333 South Green Street  
McHenry, IL 60050

You are hereby notified to commence WORK in accordance with the Agreement dated February \_\_\_\_, 2025, on or after XXXXXXXX. The date of substantial completion of all WORK is April 16, 2025 with final completion by May 14, 2025.

**City of McHenry**

By Russ Adams

Title Acting Director of Public Works

ACCEPTANCE OF NOTICE

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

\_\_\_\_\_, this the \_\_\_\_\_ day of February, 2025.

By \_\_\_\_\_

**END OF SECTION 00550**

**SECTION 00610**  
**PERFORMANCE AND MAINTENANCE BOND**  
**BOND NO. \_\_\_\_\_**

KNOW ALL MEN BY THESE PRESENTS; That

<<CONTRACTOR>>.

<<ADDRESS>>

a \_\_\_\_\_, hereafter called Contractor, and

---

(Name of Surety)

---

(Address of Surety)

hereafter called Surety, are held and firmly bound unto

City of McHenry

333 South Green Street, McHenry, IL 60050

hereafter called Owner, in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presences:

THE CONDITION OF THIS OBLIGATION is based upon a certain contract by and between Contractor and Owner dated the \_\_\_\_\_ day of \_\_\_\_\_, 2025, a copy of which is hereto attached and made a part hereof, for the construction of Kane Ave. Watermain Replacement, generally described as follows:

The Work for the said improvement, as required by the Contract Documents, includes furnishing all labor, materials, and equipment and performing all Work generally described as follows:

- Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
- Abandon approximately 192 Lin Ft of watermain,
- Install 8" insertion valve,
- Jack and bore 24" Steel casing under Union Pacific railroad,
- Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

NOW THEREFORE, if Contractor well, truly and faithfully performs its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original terms thereof, and any extensions thereof which may be granted by Owner, with or without notice to Surety, and during the two (2) years guarantee and maintenance period, and if it satisfies all claims and demands incurred under such contract, and fully indemnifies and saves harmless the Owner from all costs and damages which Owner may suffer by reason of its failure to do so, and it reimburses and repays Owner all outlay and expense which Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to Work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between Owner and Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in two or more counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

SURETY:

CONTRACTOR AS PRINCIPAL:

\_\_\_\_\_

\_\_\_\_\_

By \_\_\_\_\_  
Attorney-in-Fact

By \_\_\_\_\_

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

ATTEST:

ATTEST:

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Contractor as Principal)

[SEAL]

[SEAL]

\_\_\_\_\_  
(Witness as to Surety)

\_\_\_\_\_  
(Witness as to Contractor as Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTE: Date of BOND must not be prior to date of Contract. If Contractor is partnership, all partners should execute BOND.

**END OF SECTION 00610**

**SECTION 00615  
PAYMENT BOND  
BOND NO. \_\_\_\_\_**

KNOW ALL MEN BY THESE PRESENTS; That

<<CONTRACTOR>>

<<ADDRES>>

a \_\_\_\_\_, hereinafter called Contractor, and

---

(Name of Surety)

---

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

City of McHenry

333 South Green Street, McHenry, IL 60050

hereafter called Owner, in the penal sum of \_\_\_\_\_,  
(\$ \_\_\_\_\_) in lawful money of the United States, for the payment of which sum well and truly to  
be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these  
presences.

THE CONDITION OF THIS OBLIGATION is based upon a certain contract by and between Contractor and Owner dated the \_\_\_\_\_ day of \_\_\_\_\_, 2025, a copy of which is hereto attached and made a part hereof, generally described as follows:

The Work for the said improvement, as required by the Contract Documents, includes furnishing all labor, materials, and equipment and performing all Work generally described as follows:

- Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
- Abandon approximately 192 Lin Ft of watermain,
- Install 8" insertion valve,
- Jack and bore 24" Steel casing under Union Pacific railroad,
- Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

NOW, THEREFORE, if the Contractor promptly makes payment to all persons, firms, Subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such contract and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such Work, and all insurance premiums on said Work, and for all labor, performed in such Work whether by Subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the Work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHERE OF, this instrument is executed in two or more counterparts, each one of which shall be deemed an original, this \_\_\_\_\_ day of \_\_\_\_\_, 2025.

SURETY:

CONTRACTOR AS PRINCIPAL:

\_\_\_\_\_

\_\_\_\_\_

By \_\_\_\_\_  
Attorney-in-Fact

By \_\_\_\_\_

\_\_\_\_\_

(Address)

\_\_\_\_\_

(Address)

ATTEST:

ATTEST:

\_\_\_\_\_

(Surety)

\_\_\_\_\_

(Contractor as Principal)

[SEAL]

[SEAL]

\_\_\_\_\_

(Witness as to Surety)

\_\_\_\_\_

(Witness as to Contractor as Principal)

\_\_\_\_\_

(Address)

\_\_\_\_\_

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If Contractor is partnership, all partners should execute BOND.

**END OF SECTION 00615**

**SECTION 00700**  
**STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT**

*Reprinted by Permission of the Engineers Joint Contract Documents Committee.*

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

**ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE**

and

Issued and Published Jointly by



AMERICAN COUNCIL OF ENGINEERING COMPANIES

ASSOCIATED GENERAL CONTRACTORS OF AMERICA

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE  
*A Practice Division of the*  
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

Copyright © 2007 National Society of Professional Engineers  
1420 King Street, Alexandria, VA 22314-2794  
(703) 684-2882  
[www.nspe.org](http://www.nspe.org)

American Council of Engineering Companies  
1015 15th Street N.W., Washington, DC 20005  
(202) 347-7474  
[www.acec.org](http://www.acec.org)

American Society of Civil Engineers  
1801 Alexander Bell Drive, Reston, VA 20191-4400  
(800) 548-2723  
[www.asce.org](http://www.asce.org)

Associated General Contractors of America  
2300 Wilson Boulevard, Suite 400, Arlington, VA 22201-3308  
(703) 548-3118  
[www.agc.org](http://www.agc.org)

The copyright for this EJCDC document is owned jointly by the four EJCDC sponsoring organizations and held in trust for their benefit by NSPE.

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## TABLE OF CONTENTS

	<b>Page</b>
Article 1 – Definitions and Terminology .....	1
1.01 Defined Terms.....	1
1.02 Terminology .....	5
Article 2 – Preliminary Matters .....	6
2.01 Delivery of Bonds and Evidence of Insurance.....	6
2.02 Copies of Documents.....	6
2.03 Commencement of Contract Times; Notice to Proceed.....	6
2.04 Starting the Work.....	7
2.05 Before Starting Construction .....	7
2.06 Preconstruction Conference; Designation of Authorized Representatives .....	7
2.07 Initial Acceptance of Schedules.....	7
Article 3 – Contract Documents: Intent, Amending, Reuse .....	8
3.01 Intent.....	8
3.02 Reference Standards.....	8
3.03 Reporting and Resolving Discrepancies.....	8
3.04 Amending and Supplementing Contract Documents.....	9
3.05 Reuse of Documents .....	10
3.06 Electronic Data.....	10
Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points.....	10
4.01 Availability of Lands .....	10
4.02 Subsurface and Physical Conditions .....	11
4.03 Differing Subsurface or Physical Conditions.....	11
4.04 Underground Facilities .....	13
4.05 Reference Points .....	14
4.06 Hazardous Environmental Condition at Site.....	14
Article 5 – Bonds and Insurance .....	16
5.01 Performance, Payment, and Other Bonds .....	16
5.02 Licensed Sureties and Insurers .....	16
5.03 Certificates of Insurance .....	16
5.04 Contractor’s Insurance.....	17
5.05 Owner’s Liability Insurance .....	18
5.06 Property Insurance .....	18
5.07 Waiver of Rights .....	20
5.08 Receipt and Application of Insurance Proceeds.....	21

5.09	Acceptance of Bonds and Insurance; Option to Replace .....	21
5.10	Partial Utilization, Acknowledgment of Property Insurer .....	21
Article 6 – Contractor’s Responsibilities .....		22
6.01	Supervision and Superintendence.....	22
6.02	Labor; Working Hours.....	22
6.03	Services, Materials, and Equipment .....	22
6.04	Progress Schedule .....	23
6.05	Substitutes and “Or-Equals” .....	23
6.06	Concerning Subcontractors, Suppliers, and Others.....	25
6.07	Patent Fees and Royalties .....	27
6.08	Permits.....	27
6.09	Laws and Regulations .....	27
6.10	Taxes .....	28
6.11	Use of Site and Other Areas .....	28
6.12	Record Documents.....	29
6.13	Safety and Protection .....	29
6.14	Safety Representative.....	30
6.15	Hazard Communication Programs .....	30
6.16	Emergencies .....	30
6.17	Shop Drawings and Samples .....	30
6.18	Continuing the Work.....	32
6.19	Contractor’s General Warranty and Guarantee.....	32
6.20	Indemnification .....	33
6.21	Delegation of Professional Design Services .....	34
Article 7 – Other Work at the Site.....		35
7.01	Related Work at Site .....	35
7.02	Coordination.....	35
7.03	Legal Relationships.....	36
Article 8 – Owner’s Responsibilities.....		36
8.01	Communications to Contractor.....	36
8.02	Replacement of Engineer.....	36
8.03	Furnish Data .....	36
8.04	Pay When Due .....	36
8.05	Lands and Easements; Reports and Tests.....	36
8.06	Insurance .....	36
8.07	Change Orders.....	36
8.08	Inspections, Tests, and Approvals .....	37
8.09	Limitations on Owner’s Responsibilities .....	37
8.10	Undisclosed Hazardous Environmental Condition .....	37
8.11	Evidence of Financial Arrangements .....	37
8.12	Compliance with Safety Program.....	37
Article 9 – Engineer’s Status During Construction .....		37
9.01	Owner’s Representative .....	37
9.02	Visits to Site .....	37

9.03	Project Representative .....	38
9.04	Authorized Variations in Work .....	38
9.05	Rejecting Defective Work .....	38
9.06	Shop Drawings, Change Orders and Payments.....	38
9.07	Determinations for Unit Price Work .....	39
9.08	Decisions on Requirements of Contract Documents and Acceptability of Work.....	39
9.09	Limitations on Engineer’s Authority and Responsibilities .....	39
9.10	Compliance with Safety Program.....	40
Article 10 – Changes in the Work; Claims .....		40
10.01	Authorized Changes in the Work .....	40
10.02	Unauthorized Changes in the Work .....	40
10.03	Execution of Change Orders.....	41
10.04	Notification to Surety.....	41
10.05	Claims.....	41
Article 11 – Cost of the Work; Allowances; Unit Price Work .....		42
11.01	Cost of the Work .....	42
11.02	Allowances .....	45
11.03	Unit Price Work .....	45
Article 12 – Change of Contract Price; Change of Contract Times .....		46
12.01	Change of Contract Price .....	46
12.02	Change of Contract Times .....	47
12.03	Delays.....	47
Article 13 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work .....		48
13.01	Notice of Defects .....	48
13.02	Access to Work .....	48
13.03	Tests and Inspections .....	48
13.04	Uncovering Work.....	49
13.05	Owner May Stop the Work.....	50
13.06	Correction or Removal of Defective Work .....	50
13.07	Correction Period.....	50
13.08	Acceptance of Defective Work.....	51
13.09	Owner May Correct Defective Work .....	51
Article 14 – Payments to Contractor and Completion .....		52
14.01	Schedule of Values.....	52
14.02	Progress Payments .....	52
14.03	Contractor’s Warranty of Title .....	55
14.04	Substantial Completion.....	55
14.05	Partial Utilization .....	56
14.06	Final Inspection.....	56
14.07	Final Payment.....	57
14.08	Final Completion Delayed.....	58
14.09	Waiver of Claims .....	58

Article 15 – Suspension of Work and Termination .....	58
15.01 Owner May Suspend Work .....	58
15.02 Owner May Terminate for Cause .....	58
15.03 Owner May Terminate For Convenience.....	60
15.04 Contractor May Stop Work or Terminate .....	60
Article 16 – Dispute Resolution .....	61
16.01 Methods and Procedures.....	61
Article 17 – Miscellaneous .....	61
17.01 Giving Notice .....	61
17.02 Computation of Times .....	61
17.03 Cumulative Remedies .....	62
17.04 Survival of Obligations .....	62
17.05 Controlling Law .....	62
17.06 Headings.....	62

## 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, expeditors, 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.

**SECTION 00800  
SUPPLEMENTARY GENERAL CONDITIONS**

**These Supplementary General Conditions are compatible with EJCDC C0700 Standard General Conditions of the Construction Contract. Copyright 2007 © National Society of Professional Engineers for EJCDC.**

GENERAL. These Supplementary General Conditions make additions, deletions, or revisions to the General Conditions as indicated herein. All provisions which are not so amended or supplemental remain in full force and effect. Terms used in these Supplementary General Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SGC-1. DEFINITIONS.

Add the following definitions to Article 1:

Conflict. A case where an item of Work is shown or specified differently in two or more places in the Contract Documents. An item of Work shown in one portion of the Contract Documents but not in another is not a conflict.

Consultant: HR Green, Inc.  
Engineer: Andy Lemke, PE, Project Manager  
Address: 1391 Corporate Drive, Suite 203  
McHenry, IL 60050  
Phone: 815-385-1778  
FAX: 815-385-1781

Furnish. To deliver to the job site or other specified location any item, equipment or material or labor.

Holidays. For general scheduling information, for the City of McHenry, holidays occur on the first day of January, commonly known as New Year's Day; the last Monday in May, known as Memorial Day; the Fourth day of July, known as Independence Day; the first Monday in September, known as Labor Day; the eleventh day of November, known as Veteran's Day; the fourth Thursday in November, known as Thanksgiving Day; the fourth Friday in November known as the day after Thanksgiving; the twenty-fourth day in December, known as Christmas Eve; and the twenty-fifth day in December, known as Christmas Day.

When an official holiday falls on Sunday, the following Monday shall be designated as a substitute holiday, and observed as an official holiday. When an official holiday falls on a Saturday, the preceding Friday shall be designated as a substitute holiday, and observed as an official holiday.

Whenever the word ARCHITECT is used in the Specifications, it shall have the same meaning as the word ENGINEER as defined.

Inspect. The act of observing, checking, or verifying that materials provided or Work furnished under this Contract comply with the general intent of the project Contract Documents.

Install. Placing, erecting, or constructing complete in place any item, equipment, or material.

Provide. Furnish and install, complete in place.

Punch List. List of incomplete items of Work and of items of Work which are not in conformance with the Contract. The list will be prepared by the Engineer's representative when the Contractor (1) notifies the Engineer's representative in writing that the Work has been completed in accordance with the contract and (2) requests in writing that the Owner accept the Work.

Shall. Refers to actions by either the Contractor or the Owner and means the Contractor or Owner has entered into a covenant with the other party to do or perform the action.

Submittals. The information which is specified for submission to the Engineer in accordance with Division 1 of the Project Manual.

Final Completion. When the Engineer deems the Project and Punch List fully complete in accordance with Plans and Specification, and when all items including but not limiting to: excess building materials, concrete forms, construction trailers, field offices, and temporary traffic control have been removed from site, the Engineer shall notify the Owner in writing and recommend final acceptance of work. Sales and Use Tax Forms and Lien Waivers do not have to be completed but are encouraged to be completed as a condition of Final Completion. The date of final completion shall be the date the Engineer's written recommendation of final acceptance to the Owner.

Working Days. As defined in Article 108.04 of the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction" adopted January 1, 2016.

SGC - 2.01 DELIVERY OF BONDS AND EVIDENCE OF INSURANCE. Add the following language at the end of paragraph 2.01.A.:

A request for written interpretation or clarification of the Contract Documents shall be submitted on the Clarification/Interpretation Request form provided in the Appendix of this Project Manual.

Delete paragraph 2.01.B in its entirety and insert the following in its place:

Evidence of Insurance:

1. When CONTRACTOR delivers the executed Agreement to OWNER, CONTRACTOR shall also deliver to OWNER, with a copy to each additional

insured, identified certificates of insurance (and other evidence of insurance which OWNER or any additional insured may reasonably request) which CONTRACTOR is required to purchase and maintain in accordance with Article 5.

2. Before any Work at the site is started, OWNER will deliver to CONTRACTOR certificates of insurance (and other evidence of insurance which CONTRACTOR or any additional insured may reasonably request) which OWNER is required to purchase and maintain in accordance with Article 5.

Add the following new paragraph after paragraph 2.01.B:

- C. If necessary a request for written interpretation or clarification of the Contract Documents shall be submitted in writing.

SGC-2.02 COPIES OF DOCUMENTS. Delete paragraph 2.02A of the General Conditions and replace with the following paragraph. The Owner shall furnish to the Contractor two (2) copies of the Contract Documents, four (4) sets of Drawings, and one (1) CD with Contract Documents in electronic format. Additional quantities of the Contract Documents will be furnished at reproduction cost.

SGC-4.02 REPORTS OF PHYSICAL CONDITIONS. In the preparation of the Contract Documents, the Engineer has relied upon:

- A. The following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Utilities) which are at or contiguous to the site of the Work: Drawings, Specifications, and Contract Documents of the previous construction projects at the site.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- B. The following reports of explorations and tests of subsurface conditions at the site of the Work:

Subsurface Exploration and Analysis Kane Avenue Watermain Replacement  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- C. Copies of these documents may be examined at the office of the Owner during regular business hours. As provided in Paragraph 4.02 of the General

Conditions and identified and established above, the Contractor should place limited reliance on the documents. The Contractor shall not rely on the accuracy of the documents or make claims against the Owner, Engineer or Engineer's Consultants as a result of using the documents. These reports and drawings are not part of the Contract Document.

SGC-5.01 BONDS. The Contractor shall furnish a satisfactory Performance, Labor, Material, and Maintenance Bond in the amount of one hundred (100) percent of the Contract Price as security for the faithful performance and payment of all the Contractor obligations under the Contract Documents.

Add the following language at the end of Paragraph 5.01.C:

In addition, no further progress payments under the Agreement will be made by OWNER until CONTRACTOR complies with the provisions of this paragraph.

SGC-5.02 LICENSED SURETIES AND INSURANCE. Add the following language at the end of paragraph 5.02.A.:

Surety or insurance companies shall have an A.M. Best rating of A- or better and a financial size category of Class X or better in Best's Insurance Guide.

SGC-5.04 INSURANCE. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

- A. Commercial General Liability Insurance. Commercial general liability insurance (CGL) with a limit of not less than \$2,000,000 each occurrence and an aggregate limit of not less than \$4,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, WHICH MUST BE STATED ON THE CERTIFICATE OF INSURANCE:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

- B. Business Automobile Coverage Insurance. Business auto coverage written on ISO form CA 00 01 10 01 (or substitute form providing equivalent liability coverage) with a limit of not less \$2,000,000 for each accident, and coverage must include liability arising out of any auto (including owned, hired, and non-owned autos).

The policy must contain the following endorsement, WHICH MUST BE STATED IN THE CERTIFICATE OF INSURANCE:

- "Coverage for Certain Operations in Connection with Railroads" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage)

showing "Union Pacific Railroad Company Property" as the Designated Job Site.

- C. Workers' Compensation and Employers' Liability Insurance. Coverage must include but not be limited to:
- Licensee's statutory liability under the workers' compensation laws of the state(s) affected by this agreement.
  - Employers' liability (part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

If Licensee is self-insured, evidence of state approval and excess workers' compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

- D. Environmental Liability Insurance: Environmental Legal Liability Insurance (ELL) applicable to bodily injury, property damage, including loss of use of damaged property or of property that has not been physically injured or destroyed, cleanup costs, and defense, including costs and expenses incurred in the investigation, defense, or settlement claims, or compliance with statute, all in connection with any loss arising from the insured's performance under this Agreement. Except with respect to the limits of insurance, and any rights or duties specifically assigned to the first named insured, this insurance must apply as if each named insured were the only named insured; and separately to the additional insured against which claim is made or suit is brought. Coverage shall be maintained in an amount of at least \$2,000,000 per loss, with an annual aggregate of at least \$4,000,000.

Licensee warrants that any retroactive date applicable to ELL insurance coverage under the policy is the same as or precedes the effective date of the agreement, and that continuous coverage will be maintained for a period of five (5) years beginning from the time the work under this agreement is completed or if coverage is cancelled for any reason the policies extended discovery period, if any, will be exercised for the maximum time allowed.

- E. Railroad Protective Liability Insurance: Licensee must maintain for the duration of work "Railroad Protective Liability" insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Union Pacific Railroad Company only as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate of \$6,000,000. The definition of "JOB LOCATION" and "WORK" on declaration page of the policy shall refer to this agreement and shall describe all WORK or OPERATIONS performed under this Agreement. Notwithstanding the foregoing, Licensee does not need Railroad Protective Liability Insurance after its initial construction work is complete and all excess materials have been removed from Union Pacific Railroad Company's property; PROVIDED, however, that Licensee shall procure such coverage for

any subsequent maintenance, repair, renewal, modification, reconstruction, or removal work on Licensee's facilities.

- F. Umbrella or Excess Insurance. If Licensee utilizes umbrella or excess policies, and these policies must "follow form" and afford no less coverage than the primary policy.
- G. All policy(ies) required above (except business automobile, workers' compensation and employers' liability) must include Union Pacific Railroad Company as "additional insured" using ISO additional insured endorsement CG 20 26 (or substitute form(s) providing equivalent coverage). The coverage provided to Union Pacific Railroad Company as additional insured shall not be limited by licensee's liability. Both Union Pacific Railroad Company and licensee expect that Union Pacific Railroad Company will be provided with the broadest possible coverage available by operation of law under ISO Additional insured CG 20 26.
- H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.
- I. Licensee waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Union Pacific Railroad Company and its agents, officers, directors and employees for damages covered by the workers' compensation and employers' liability or commercial umbrella or excess liability obtained by licensee required by this agreement, where permitted by law. This waiver must be stated on the certificate of insurance.
- J. All Insurance policies must be written by a reputable insurance company acceptable to Union Pacific Railroad Company or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.
- K. The fact that insurance is obtained by licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this agreement. Damages recoverable by Union Pacific Railroad Company from licensee or any third party will not be limited by the amount of the required insurance coverage.

SGC-5.06 PROPERTY INSURANCE. Contractor shall secure all-risk type of builders risk insurance covering Work performed under the contract and materials, equipment or other items to be incorporated therein, while the same are located at the construction site, stored off site, or at the place of manufacture. The policy shall cover not less than losses due to fire, flood, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke until the date of final acceptance of the Work. The policy may exclude loss or damage caused by or resulting from errors in design or from the use of substandard materials or supplies used knowingly by or at the direction of the insured, but not excluding results, physical loss, or

damage to other property covered hereunder. Neither exclusion shall apply in the event of fire, explosion, or acts of God.

The maximum deductible allowable under this policy shall be \$100,000. The policies providing this insurance shall name the Owner, Contractor, and their subconsultants as additional insureds as their respective interests shall appear. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the Owner or being construed as relieving the Contractor or Subcontractors of responsibility for loss or direct physical loss, damage or destruction occurring prior to final acceptance.

SGC-6.01 SUPERVISION AND SUPERINTENDENCE. Add the following paragraph to 6.01 of the General Conditions:

The Contractor or competent Superintendent must be on the Project when construction activities are taking place. The Superintendent shall supervise, direct, and control the contractor's operations, personnel, work and the Subcontractor's operations. The Contractor shall give the Owner and Engineer written notification of the name of the Superintendent. The Superintendent shall be incidental to mobilization. A copy of the Drawings and Specifications shall be available on the project site at all times.

Contractor shall maintain a qualified and responsible person available 24 hours per day, seven days per week to respond to emergencies which may occur after hours. Contractor shall provide to Engineer the phone number and/or paging service of this individual.

Incompetent or incorrigible employees shall be dismissed from Work by Contractor or its representative when requested by Engineer, and such persons shall not again be permitted to return to Work without written consent of Engineer.

Except in connection with safety or protection of persons or Work or property at site or adjacent thereto, and except as otherwise indicated in Contract Documents, all Work at site shall be performed during regular working hours, and Contractor shall not permit overtime work or performance of Work on Saturday, Sunday, or any legal holiday without Owner's written consent given after prior written notice to Engineer. Workmanship shall be of best quality.

SGC-6.05E ENGINEER'S COST REIMBURSEMENT. In addition to the provisions of Paragraph 6.05E of the General Conditions, the following subparagraph shall be incorporated.

The Contractor shall also reimburse the OWNER for charges by the ENGINEER to review shop drawings and submittals more than once where resubmittal is required.

SGC-6.08 PERMITS. In addition to the provisions of Paragraph 6.08 of the General Conditions, the following subparagraph shall be incorporated:

The Contractor shall obtain all necessary federal, state, and local permits required for any dewatering and storm water discharges necessary during construction. The Contractor shall also provide all monitoring and test reporting relating to the discharges.

SGC-6.10 TAXES. Construction items and materials included in the Project are exempt from State of Illinois and Local Option Sales and Use Taxes. Contractor is responsible for obtaining the exemption on items included, as provided by law or for applying for reimbursement for such taxes paid. Contractor shall pay all other taxes required to be paid by Contractor in accordance with the laws and regulations of the place of the Project that are applicable during the performance of the Work. Contractor shall NOT include Sales and Use Tax in Contractor's bid.

SGC-6.16 EMERGENCIES. Add the following new paragraph immediately after paragraph 6.16.A.:

- B. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, and CONTRACTOR cannot be reached, OWNER may act to attempt to prevent threatened damage, injury, or loss. OWNER will give CONTRACTOR and ENGINEER prompt written notice of such action and the cost of the correction or remedy shall be charged against CONTRACTOR. 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 OWNER in response to such an emergency, a Work Change Directive or Change Order will be issued.

SGC-6.17 SHOP DRAWINGS AND SAMPLES. Add the following new subparagraph immediately after subparagraph 6.17.D.3.:

4. After ENGINEER has reviewed and approved a Shop Drawing or Sample, CONTRACTOR shall provide the material or equipment approved. ENGINEER will not review subsequent submittals of a different manufacturer or Supplier unless CONTRACTOR provides sufficient information to ENGINEER that the approved material or equipment is unavailable, time of delivery will delay the construction progress, or OWNER requests a different manufacturer or Supplier.

SGC-6.20 INDEMNIFICATION. Add the following two new paragraphs immediately after Paragraph 6.20.C of the General Conditions:

- A. The obligations of CONTRACTOR under Paragraph 6.20 shall be construed to include injury or damage resulting from any failure to use or misuse by CONTRACTOR, CONTRACTOR'S agents and employees of any scaffold, hoist, crane, stay, ladder, support or other mechanical contrivance erected or constructed by any person or any or all other kinds of equipment whether or not owned or furnished by OWNER. It is understood that this excludes use by OWNER or OWNER'S employees of scaffolding owned and furnished by OWNER.
- E. In the event that CONTRACTOR is requested but refused to honor the indemnity obligations of 6.20.A and 6.20.B CONTRACTOR shall, in addition to all other obligations, pay the cost of bringing any such action, including attorneys fees, to the party requesting indemnity.

SGC-9.03 PROJECT REPRESENTATIVE. Delete paragraph 9.03 in its entirety and insert the following in its place:

9.03 Project Representative

- A. ENGINEER will furnish a Resident Project Representative (RPR), assistants and other field staff to assist ENGINEER in observing the performance of the Work of CONTRACTOR.
- B. Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR, ENGINEER shall endeavor to provide further protection for OWNER against defects and deficiencies in the Work; but, the furnishing of such services will not make ENGINEER responsible for or give ENGINEER control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.
- C. The responsibilities, authority, and limitations of the RPR are limited to those of ENGINEER in paragraph 9.10 of the General Conditions, and the Contract Documents, and are further limited and described as follows:
  - 1. 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 actions. 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 shall 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.
  - 2. Duties and responsibilities of the RPR:
    - a. Conduct a preconstruction conference with OWNER, CONTRACTOR, Utilities, and other appropriate parties affected by the Project. This meeting will allow all parties to the Project the opportunity to develop specific guidelines of involvement, establish timetables of events, and define Project requirements.
    - b. Review Applications for Payment submitted by CONTRACTOR. Evaluate applications against work observed as being completed. Forward applications to OWNER for approval and payment after revision, when necessary.
    - c. Provide direction for the assistants and coordinate observation activities.
    - d. Direct visiting inspectors representing public or other agencies having jurisdiction over the Project to OWNER or CONTRACTOR as appropriate.

- e. Administer all required Written Amendments and other documents amending, modifying, or supplementing the Contract Documents as the Project proceeds.
- f. Disapprove or reject Work which is observed to be “defective”. Require inspection or testing of Work as provided in Article 13 of the General Conditions when it is deemed necessary.
- g. Review the testing of equipment and systems provided by CONTRACTOR and assess its compliance with the Contract Documents.
- h. Determine final quantities for Work installed which will serve as the basis for the final payment to CONTRACTOR.
- i. Coordinate efforts required to prepare record drawings showing those changes made during construction, based on the marked-up prints, drawings and other data furnished by CONTRACTOR to ENGINEER and which ENGINEER considers significant.

SGC-9.09 AUTHORITY AND RESPONSIBILITIES. Add the following new paragraph immediately after Paragraph 9.09.E:

- F. When ENGINEER is on the Project site to perform the duties and responsibilities as set forth in the Contract Documents, ENGINEER will comply with CONTRACTOR’S safety plans, programs, and procedures. In the event ENGINEER determines that CONTRACTOR’S safety plans, programs, and procedures do not provide adequate protection for ENGINEER, ENGINEER may direct its employees to leave the Project site or implement additional safeguards for ENGINEER’S protection. If taken, these actions will be in furtherance of ENGINEER’S responsibility to its own employees only, and ENGINEER will not assume any responsibility for protection of any other persons affected by the Work.

SGC-10.03 EXECUTION OF CHANGE ORDERS. Add the following new paragraph immediately after subparagraph 10.03.A.3.

- B. Change Orders will be prepared on the form included in Section C7 of the Contract Documents.

SGC-10.05 CLAIMS. Add the following new subparagraph after paragraph 10.05.A.:

- 1. Notice of the amount or extent of the claim shall include the following certification:

"CONTRACTOR certifies that this claim is made in good faith, that the supporting data are accurate and complete to the best of CONTRACTOR'S knowledge and belief, and that the amount or time requested accurately reflects the Contract adjustment for which CONTRACTOR believes OWNER is liable."

Add the following new paragraph immediately after paragraph 10.05.F.:

- G. CONTRACTOR acknowledges the applicability of the False Claims Act, 31 U.S.C. S3729, et seq., to this Contract, including liability for false and fraudulent claims resulting in civil penalties of \$5,000 to \$10,000, treble damages, and award of attorneys' fees and costs.

SGC-11.01.A.5.C RENTAL. The Contractor will be paid for the use of equipment at the rental rate listed for such equipment specified in the current edition of the following reference publication:

"Contractor's Equipment Cost Guide" as published by Primedia Information (a company of the Dunn and Bradstreet Corporation), 1735 Technology Drive, Suite 410, San Jose, CA 95110-1313, telephone number (408) 468-8000 or outside of California (800) 669-3282.

SGC-12.02 CHANGE OF CONTRACT TIMES. Add the following new paragraph immediately after paragraph 12.02.B.:

- C. Time extensions provided under paragraphs 12.02 of the General Conditions will only be allowed for controlling items of Work (critical path).

SGC-12.03 LIQUIDATED DAMAGES. Add the following to Paragraph 12.03 of the General Conditions:

- F. Terms and conditions for liquidated damages are defined in Section 00520 – Agreement.

SGC-14.02.A.3 AMOUNT OF RETAINAGE. Add the following to Paragraph 14.02.A.3 of the General Conditions:

The Owner shall retain from each monthly payment **ten (10) percent** of the amount which is determined to be due according to the recommendation of the Engineer. The retainage shall constitute a fund for the payment of claims for materials furnished and labor performed on the project.

SGC-14.04 SUBSTANTIAL COMPLETION. Add the following new subparagraph immediately after paragraph 14.04.A.:

1. CONTRACTOR'S request for issuance of a Certificate of Substantial Completion shall occur after CONTRACTOR has, in the opinion of the ENGINEER, satisfactorily delivered all schedules, guarantees, Bonds, certificates or other evidence of

insurance required by ARTICLE 5, certificates of inspection, affidavit of wage rate compliance, marked-up record documents (as provided in paragraph 6.12) and other documents. ENGINEER will not prepare a tentative certificate of Substantial Completion until all operation and maintenance data has been submitted and approved.

2. Substantial Completion shall be considered achieved when the Owner agrees that the following systems are functioning and usable for their intended purpose: All three pumps are fully functional, and the lift station is complete and able to handle flows.

SC-14.07 FINAL PAYMENT. Amend the first sentence of subparagraph 14.07.A.1. by striking out the following words: “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”

SGC-15.04 CONTRACTOR MAY STOP WORK OR TERMINATION. Amend paragraph 15.04.A. by striking out the words “30 days” in two places and inserting the words “60 days” in their place and by striking out the words “seven days” in one place and inserting the words “ten days” in their place.

SGC-16 DISPUTE RESOLUTION. Add the following to the General Conditions.

It is not the intent of these documents to exclude other means of dispute resolution other than Arbitration. Arbitration may be a means of dispute resolution by the Owner. The Owner shall not be restricted to Arbitration. Article 16 of the General Conditions shall not apply when Arbitration is the selected means of dispute resolution.

SGC-17.01 GIVING NOTICE. Delete paragraph 17.01.A in its entirety and insert the following in its place:

- A. Whenever any provision of the Contract Documents requires the giving of a written notice or the delivery of any Bond, Agreement, Certificate of Insurance or any other item, it shall be deemed to have been validly given if delivered in person to the individual, to a member of the firm, or to an officer of the cooperation for whom it is intended, or if delivered at or sent by registered or certified mail (return receipt), postage prepaid, to the last business address known to the giver of the article.

SGC-17.07 LEIN WAIVERS. Add the following new paragraph immediately after paragraph 17.06:

17.07 Lien Waivers:

- A. OWNER may at any time require CONTRACTOR to furnish lien waivers for labor and materials covered by specified Applications for Payment.

**END OF SECTION 00800**



## SECTION 01 1000

### SUMMARY

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Project Information.
- B. Contract Description.
- C. Commencement of the Work.
- D. Owner Occupancy.
- E. Contractor Use of Site and Premises.
- F. Layout of the Work.
- G. Work Sequence.
- H. Permits, Fees and Notices.

##### 1.02 PROJECT INFORMATION

- A. Project Name: Kane Ave. Watermain Replacement
- B. Owner's Name: City of McHenry.
  - 1. Address: 1415 Industrial Drive, McHenry Illinois 60050.
  - 2. Telephone: (815) 363-2186.
- C. Engineer's Name: HR Green, Inc.
  - 1. Address: 1391 Corporate Drive, Suite 203, McHenry, Illinois 60050
  - 2. Phone: (815) 385.1778
  - 3. Fax: (815) 385.1781
- D. The Project includes furnishing all labor, materials, and equipment and performing all work generally described as follows:
  - Installation of approximately 205 Lin Ft of 12" PVC (C-900) Watermain pipe and 37 Lin Ft of 8" PVC (C-900) Watermain pipe,
  - Abandon approximately 192 Lin Ft of watermain,
  - Install 8" insertion valve,
  - Jack and bore 24" Steel casing under Union Pacific railroad,
  - Complete restoration of site, and patching of asphalt roadway and driveways, as necessary.

##### 1.03 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on Unit Price Base Bid Price as described in Document 00400 - Bid Form.

##### 1.04 QUALITY ASSURANCE

- A. Supervision and Superintendent:
  - 1. The Contractor or competent Superintendent must be on the Project when construction activities are taking place. The Superintendent shall supervise, direct, and control the Contractor's operations, personnel, work and the Subcontractor's operations. The Contractor shall give the Owner and Engineer written notification of the name of the Superintendent. The Superintendent shall be employed by the General Contractor and

shall be assigned to the project full-time. The Superintendent shall be incidental to mobilization. A copy of the Drawings and Specifications shall be available on the project site at all times.

2. Contractor shall maintain a qualified and responsible person available 24 hours per day, seven days per week to respond to emergencies which may occur after hours. Contractor shall provide to Engineer the phone number and/or paging service of this individual.
3. Incompetent or incorrigible employees shall be dismissed from Work by Contractor or its representative when requested by Engineer, and such persons shall not again be permitted to return to Work without written consent of Engineer.

#### **1.05 COMMENCEMENT OF THE WORK**

- A. The Contractor shall not commence Work nor allow Subcontractors or Sub-subcontractors to commence Work until:
  1. The Agreement has been fully executed.
  2. The Owner has approved the Contractor's Performance and Maintenance and Payment Bonds.
  3. The Owner has approved evidence of the Contractor's Liability Insurance and other insurance required to be purchased by the Contractor.
  4. The Engineer, on behalf of the Owner, has issued a Notice to Proceed.

#### **1.06 OWNER OCCUPANCY**

- A. The Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the time for completing the entire work or such portions as may not have expired; but such taking, possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents.
  1. If such prior use increases the cost of, or delays the Work, the Contractor shall be entitled to such extra compensation or extension of time, or both, as the Engineer may determine.
- B. Owner intends to continue to utilize adjacent portions of watermain during the entire construction period.
- C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- D. Schedule the Work to accommodate Owner occupancy and operations.

#### **1.07 CONTRACTOR USE OF SITE AND PREMISES**

- A. Construction Operations: Within City right-of-way boundaries.
- B. Limit use of site and premises to allow:
  1. Work by Others.
  2. Work by Owner.
  3. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner.
- D. All residents with driveways within the limits of construction shall be provided with access to their driveways at the end of each working day. Twenty-Four (24) hour notice must be given to the homeowner prior to disturbance of their driveway access.
- E. Construction Hours: Construction, Alteration or Repair. No activities in connection with construction, alteration, repair or demolition, shall be carried on other than during the following hours:
  1. Weekdays: 7:00 a.m. - 8:00 p.m.
  2. Saturdays: 8:00 a.m. - 4:00 p.m.
  3. Sundays and Legal Holidays: None
  4. Exceptions:
    - a. These activities may be conducted outside the specified times in the event of emergencies in order to protect the health, safety, or welfare of the public.
    - b. The hours may be extended when involving City projects when it serves the best interest of the public good provided the effect on the public health, comfort, convenience, peace, safety, and welfare are minimized.

## **1.08 LAYOUT OF THE WORK**

- A. The Owner shall provide information to the Contractor regarding bench marks for the project. The Contractor shall be responsible for all detailed construction staking.

## **1.09 WORK SEQUENCE**

- A. Construct Work in stages to accommodate Owner's occupancy and operational requirements during the construction period. Coordinate construction schedule and operations with Owner.
- B. All portions of work under the proposed Contract Documents shall be completed and ready for operation on or before the date set forth in the Agreement. Provisions for liquidated damages are set forth in the Agreement.
- C. The Contractor shall schedule Work so that interruption of existing utilities, including but not limited to: electric, telephone, communication, cable, gas, water, and sewer service will be at a minimum. When it is necessary to interrupt services, the Contractor shall notify the Owner's representative, Engineer, and appropriate utility companies twenty-four (24) hours in advance of the interruption.
- D. Plan the construction work and carry out with a minimum of interference with the operation of the existing facilities. Prior to starting the construction, confer with the Engineer and Owner's representative and develop a detailed, approved construction schedule which will permit the facilities to function as normally as practical during the construction period. It will be necessary to do certain parts of the construction work outside normal working hours and on Sundays in order to avoid undesirable conditions, and it shall be the obligation of the Contractor to do this work at such times at no additional cost to the Owner. Do not make connections between existing piping and new piping until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the drawings and specifications.
- E. Special notes detailing critical portions of the work involving removal, replacement, tie-in, changeover, etc. have been included in the drawings and the Work Sequence of this Section. These notes describe the work, timing, scheduling, and coordination with the Owner and Engineer necessary to complete the work. The detailed construction schedule shall be developed by the Contractor with consideration of these details and the overall progress of the work. The Engineer and Owner shall have full authority to review this schedule in order to protect the operation of the existing facilities during construction.

## **1.10 PERMITS, FEES AND NOTICES**

- A. The Contractor shall secure and pay for all permits and governmental fees, licenses and inspections for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which were legally required at the time bids were received.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION - NOT USED**

**END OF SECTION**

## SECTION 01 3000

### ADMINISTRATIVE REQUIREMENTS

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Submittals for Review, Information, and Project Closeout.
- B. Number of Copies of Submittals.
- C. Submittal Procedures.

##### 1.02 RELATED REQUIREMENTS

- A. Document 00700 - Standard General Conditions of the Construction Contract, EJCDC No. C-700 (2002 Edition).
- B. Document 00800 - Supplementary General Conditions.
- C. Section 01 7000 - Execution Requirements: Additional coordination requirements.
- D. Section 01 7800 - Closeout Submittals: Project record documents.

#### PART 2 PRODUCTS - NOT USED

#### PART 3 EXECUTION

##### 3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
  - 1. Product data.
  - 2. Shop drawings.
  - 3. Samples for selection.
  - 4. Samples for verification.
- B. Submit for review according to the procedures and purposes described herein.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - CLOSEOUT SUBMITTALS.
- E. Required Submittal Quality
  - 1. Binding
    - a. No loose collection of papers bound by any type of paper clip/staple etc. accepted.
    - b. 3/8" thickness (or less) of submittal material -- commercial grade reinforced paper/cardboard or plastic cover assembly.
    - c. Greater than 3/8" but less than 1" thickness of submittal material -- commercial grade machine-bound wire or plastic multi-perforation binder.
    - d. Greater than 1" -- commercial grade 3-ring binder.
  - 2. Organization
    - a. Exterior Cover Labeling
      - 1) Supplier name, address, and telephone number.
      - 2) Supplier's designated Project Number.
      - 3) Engineer's designated Project Name, Job Number, and Location.
      - 4) Engineer's firm name and location
      - 5) General contractors name and location
      - 6) Specification Section(s) applicable to submittal contents.
    - b. Contents
      - 1) Cover sheet (same as Exterior Cover requirements) with at least a 4" x 4" blank space for Engineers Review Stamp.
      - 2) Table of Contents for all major equipment/devices/components/descriptions

- specified.
- 3) Notification of all exceptions taken to the specifications.
- 4) Order of Contents -- must be the same as order described in the applicable specification sections.
- 5) Tabs separating each major equipment division.
- 6) Colored fly sheets separating minor components.
- 7) All sheets to be 8-1/2 x 11 (minimum) or individually folded to achieve same dimension when larger sheets required..
- 3. Identification of Pertinent Information
  - a. Provide Bill of Materials to indicate (at minimum) series, model number, and manufacturer.
  - b. On catalog cut sheets:
    - 1) Identify series and complete model number proposed.
    - 2) Identify information pertinent to proposed model and conformance to specifications by arrow, underline, circular enclosure.
    - 3) Minimize non-specific information that does not indicate conformance or cross out non-pertinent information.
  - c. On performance data/curves etc. clearly identify pertinent information (or cross out non-pertinent) data.
  - d. On all documentation provided, illustrate exceptions to the contract documents.
- 4. Legible Quality
  - a. Font size no less than 10; minimum character height no less than 1/16".
  - b. No faxes accepted.
  - c. No copies of catalog cuts accepted where information is skewed off page or non-linear.
  - d. Basic information to be all type-written; only identification of pertinent information may be hand written.

### **3.02 SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit them for information:
  - 1. Design data.
  - 2. Certificates.
  - 3. Test reports.
  - 4. Inspection reports.
  - 5. Manufacturer's instructions.
  - 6. Manufacturer's field reports.
  - 7. Other types indicated.
- B. Submit for Engineer's knowledge as contract administrator or for Owner. No action will be taken.

### **3.03 SUBMITTALS FOR PROJECT CLOSEOUT**

- A. When the following are specified in individual sections, submit them at project closeout:
  - 1. Project record documents.
  - 2. Operation and maintenance data.
  - 3. Warranties.
  - 4. Bonds.
  - 5. Other types as indicated.
- B. Submit for Owner's benefit during and after project completion.

### **3.04 NUMBER OF COPIES OF SUBMITTALS**

- A. Documents for Review:
  - 1. Submit the number of copies which the Contractor requires, plus four copies which will be retained by the Engineer.
- B. Documents for Information: Submit two copies.

- C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
- D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Engineer.
  - 1. After review, produce duplicates.
  - 2. Retained samples will not be returned to Contractor unless specifically so stated.

### 3.05 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Contractor's standard submittal form.
- B. Submittal number shall be in reference to Engineer's specification section. If there are multiple submittals to a singular specification section add a hyphen followed by a number. Re-submittals to have original number with an alphabetic suffix.
  - 1. Examples:
    - a. Two submittals (from same specification section) for Project Review: 16425-1 & 16425-2; second submittal (after initial review was rejected): 16425-2-A.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's standard certification stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents. Submittals without this certification will be returned without review.
- E. Deliver submittals to Engineer at business address.
- F. Schedule submittals to expedite the Project, and deliver. Coordinate submission of related items.
- G. Coordinate submittals with other submittals, related activities, sequential activities and overall performance of the Work.
- H. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- J. Provide space for Contractor and Engineer review stamps.
- K. Revise and submit submittals as required, identify all changes made since previous submittal.
- L. When revised for resubmission, identify all changes made since previous submission.
- M. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with provisions.
- N. Clearly identify on the transmittal sheet if the submittal represents "Or Equal" items or substitute items. If the submittal is a substitute, the substitution must result in a decrease in overall cost or result in saving construction time.
- O. Contractor to investigate and evaluate for items with long lead times or critical path to execution of the contract, and to coordinate at least these items' submittal groupings with the Engineer. The Engineer accepts no burden for project delays where additional submittal cycles are required to ascertain conformance and intent to the contract documents.
- P. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, give written notice thereof at least 7 calendar days prior to release for manufacture.
- Q. When the shop drawings have been completed to the satisfaction of the Engineer, carry out the construction in accordance therewith and make no further changes therein except upon written instructions from the Engineer.

### **3.06 ENGINEER'S REVIEW RESPONSIBILITIES, PROCEDURES AND DEFINITIONS**

- A. General
1. Review of shop drawings, data, and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
    - a. As permitting any departure from the Contract requirements;
    - b. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
    - c. As approving departures from details furnished by the Engineer, except as otherwise provided herein;
    - d. As approving substitutions to specified products or manufacturers.
  2. The Engineer does not review for verification of quantities, weights, dimensions, or means and methods.
  3. Partial review status will not be given to a submittal. Entire submittal shall be either acceptable or the entire submittal must be resubmitted with corrections as clarified by status definitions below.
  4. Submittals will be reviewed in order received unless Contractor requests a revised order of review, in writing. All submittals shall be submitted sufficiently in advance of construction requirements to provide no less than 21 calendar days for review from the time the Engineer receives them. No less than 30 calendar days will be required for major equipment that requires review by more than one engineering discipline.
- B. All submittals that have been reviewed by Engineer will have Engineer's Review Stamp affixed, initialed and dated, indicating Engineer's review action. No submittals shall be used for construction unless they bear the initialed Engineer's Review Stamp. Possible review actions by Engineer are:
1. REVIEWED. Engineer's review did not detect deviations from conformance and intent of the Contract Documents.
  2. REVIEWED AS NOTED. Engineer's review did not detect major deviations from conformance and intent of the contract documents; minor discrepancies and/or deficiencies are noted. Corrected copies are not required; however, the item(s) to be furnished are to be furnished in accordance with the Engineer's comments. If the Contractor elects to take exception to any comments, then corrected copies (with supplemental explanatory data) are to be re-submitted to the Engineer similar to a Revise and Resubmit status process.
  3. REVISE AND RESUBMIT. Engineer's review found major discrepancies and/or deficiencies, and corrected submittals (in their entirety) are required to determine conformance and intent to the contract documents.
  4. REJECTED. Engineer's review concluded that the item(s) submitted do not meet the requirements of the "Or Equal" allowance, or a "Substitution" has been provided without proper approval process. An additional submittal cycle is required containing suitable items to determine conformance and intent of the contract documents.
  5. HOLD. Submittal may be put on "hold" allowing the Contractor an opportunity to provide supplemental data (same number of copies required) to demonstrate conformance and thus avoid a re-submittal. The Engineer will allow 14 calendar days for receipt of corrected/additional data response, after notification to Contractor. This delay does not impact the Engineer's allowance of days to review submitted documents. If no acceptable receipt of response is received within the allowed time, the submittals will be returned as a "Revise and Resubmit" or "Rejected" status, as determined by the Engineer.
    - a. Notification of "hold" status shall be initiated (and recorded) by a transmittal letter (to the general contractor) which includes the "hold" status denoted and a copy of the contractor's original transmittal attached.
  6. REVIEW NOT REQUIRED BY CONTRACT -- The Engineer's review found that the information submitted is not necessary to evaluate conformance and intent with contract documents.

### **3.07 RE-SUBMITTALS**

- A. Re-submittals will be handled in the same manner as first submittals. On re-submittals, direct specific attention, in writing on the transmittal letter and on re-submitted shop drawings by use

of revision triangles or other similar methods, to revisions other than the corrections requested by the Engineer, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the Contractor. Make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the Engineer.

- B. Engineer will review all initial information for each submittal. Contractor shall reimburse Owner for the Engineer's charges for review of additional re-submittals. Contractor will be charged for review of all re-submittals over 20% of the initial submittals.
  - 1. EXAMPLE: If the Contractor has a total of 50 initial submittals, there will be no charge for reviewing a combined total of 60 submittals and re-submittals. There will be a charge to review all submittals and re-submittals in excess of 60.
- C. The need for more than one re-submittal or any other delay in obtaining Engineer's review of submittals, will not entitle Contractor to extension of the contract time unless delay of the Work is the direct result of a change in the Work authorized by a Change Order or failure of Engineer to review and return any submittal to Contractor within the specified review period.
- D. An assigned review status of REVISE AND RESUBMIT or REJECTED requires the original full number of submittals to be resubmitted free of the Engineers previous correction marks and review status stamp. The Engineer reserves the right to retain the same number of copies for each review cycle.

**END OF SECTION**

## SECTION 01 3216

### CONSTRUCTION PROGRESS SCHEDULE

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Submittals.
- B. Preliminary schedule.
- C. Construction progress schedule, bar chart type.

##### 1.02 SUBMITTALS

- A. Within 5 days after date of Agreement, submit initial progress schedule in duplicate.
- B. Revise and resubmit as required.
- C. Submit revised schedule with each Application for Payment, identifying changes since previous version.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- E. Indicate estimated percentage of completion for each item of Work at each submission.
- F. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

##### 1.03 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Scale and Spacing: To allow for notations and revisions.

#### PART 2 PRODUCTS - NOT USED

#### PART 3 EXECUTION

##### 3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

##### 3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules to define critical portions of the entire schedule.
- E. Include conferences and meetings in schedule.
- F. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- G. Coordinate content with Schedule of Prices specified in the Proposal.
- H. Provide legend for symbols and abbreviations used.

##### 3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.

- B. Identify the first work day of each week.

#### **3.04 REVIEW AND EVALUATION OF SCHEDULE**

- A. Participate in joint review and evaluation of schedule with Resident Project Representative at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

#### **3.05 UPDATING SCHEDULE**

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Update diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.

#### **3.06 DISTRIBUTION OF SCHEDULE**

- A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Engineer, Resident Project Representative, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

**END OF SECTION**

**SECTION 01 4000**  
**QUALITY REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Field Samples.
- B. Mock-ups.
- C. Control of Installation.
- D. Tolerances.
- E. Testing Services.
- F. Manufacturers' Field Services.

**1.02 REFERENCE STANDARDS**

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants ; 2008.
- B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation ; 2011.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry ; 2009.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction ; 2010.
- E. ASTM E329 - Standard Specification for Agencies Engaged Construction Inspection and/or Testing ; 2011.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing ; 2009.

**1.03 FIELD SAMPLES**

- A. Install field samples at the site as required by individual specifications Sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Engineer.

**1.04 TESTING SERVICES**

- A. Contractor will employ and pay for services of an independent testing agency to perform specified testing and inspection of sanitary sewer main, pavement, and geotechnical/soils related activities.
- B. Owner may choose to have Engineer perform certain inspection and testing activities in addition to those specified as required by the Contractor. Payment for initial Owner/Engineer inspection and testing will be by Owner. Payment for Owner/Engineer retesting required because of non-conformance to specified requirements will be charged to the Contractor by deducting inspection and testing charges from the Contract Sum.
- C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

### **3.02 MOCK-UPS – NOT USED**

### **3.03 TOLERANCES**

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

### **3.04 TESTING AND INSPECTION**

- A. See individual specification sections for testing required.
- B. Testing Agency Duties:
  1. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
  2. Perform inspections, sampling, testing, and other services specified in individual specification sections and as required by the Engineer.
  3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
  5. Perform additional tests and inspections required by Engineer.
  6. Submit reports of all tests/inspections specified to Engineer, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- C. Limits on Testing/Inspection Agency Authority:
  1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  2. Agency may not approve or accept any portion of the Work.
  3. Agency may not assume any duties of Contractor.
  4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
  1. Deliver to agency at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs, equipment, tools, storage, and assistance as requested.
  2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
  3. Provide incidental labor and facilities:
    - a. To provide access to Work to be tested/inspected.
    - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    - c. To facilitate tests/inspections.
    - d. To provide storage and curing of test samples.
  4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
  5. Make arrangements with testing agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
  6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect. Payment for re-testing will be made by the Contractor.

### **3.05 MANUFACTURERS' FIELD SERVICES**

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given by Manufacturer's Service Representatives to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to Engineer for review.
- D. Contractor shall provide qualified Service Representative(s), as necessary to:
  - 1. Instruct the Contractor's personnel in the installation, startup, and testing of equipment.
  - 2. Inspect equipment after it is installed to assure that all details of installation are correct and that equipment is prepared for operation in accordance with manufacturer's instructions and recommendations.
  - 3. Check connections to equipment and adjust, or supervise adjustment of, control and indicating devices after equipment has been installed and connected.
  - 4. Fully instruct Owner's operating personnel in operation and maintenance of equipment.
  - 5. Provide Engineer with duplicate copies of final alignment and clearance measurements on all rotating or reciprocating equipment. Measurements shall clearly identify each piece of equipment.
  - 6. Supervise preliminary operation of equipment and necessary adjustments.
- E. Presence of Service Representative will in no way relieve Contractor of any responsibility assumed under Agreement.
- F. Work and abilities of Service Representative shall be subject to review of Engineer. If Engineer determines that any Service Representative is not properly qualified, Contractor shall replace Service Representative upon written notification by Engineer.
- G. Contractor shall provide continuity in assignment of Service Representative to Work. In event substitution of Service Representative is made which is not at request of Engineer, substitute's time for "familiarization" shall be at Contractor's expense.
- H. Execute manufacturer's certificate of proper installation, found at the end of this section.

### **3.06 DEFECT ASSESSMENT**

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

**END OF SECTION**

## SECTION 01 4213

### ABBREVIATIONS

#### PART 1 GENERAL

##### 1.01 GENERAL

- A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these Specifications, the following acronyms or abbreviations which may appear in these Specifications shall have the meanings indicated herein.

##### 1.02 ABBREVIATION

- A. AAMA - Architectural Aluminum Manufacturer's Association  
B. AASHTO - American Association of State Highway and Transportation Officials  
C. AATCC - American Association of Textile Chemists and Colorists  
D. ACI - American Concrete Institute  
E. AFBMA - Anti-Friction Bearing Manufacturer's Association, Inc.  
F. AGA - American Gas Association  
G. AGMA - American Gear Manufacturer's Association  
H. AI - The Asphalt Institute  
I. AIA - American Institute of Architects  
J. AISC - American Institute of Steel Construction  
K. AISI - American Iron and Steel Institute  
L. AITC - American Institute of Timber Construction  
M. AMCA - Air Moving and Conditioning Association  
N. ANS - American Nuclear Society  
O. ANSI - American National Standards Institute, Inc.  
P. APA - American Plywood Association  
Q. API - American Petroleum Institute  
R. APWA - American Public Works Association  
S. ASA - Acoustical Society of America  
T. ASAE - American Society of Agricultural Engineers  
U. ASCE - American Society of Civil Engineers  
V. ASHRAE - American Society of Heating, Refrigerating, and Air Conditioning Engineers  
W. ASME - American Society of Mechanical Engineers  
X. ASQC - American Society for Quality Control  
Y. ASSE - American Society of Sanitary Engineers  
Z. ASTM - American Society for Testing and Materials  
AA. AWPA - American Wood Preservers Association  
AB. AWPI - American Wood Preservers Institute  
AC. AWS - American Welding Society  
AD. AWWA - American Water Works Association  
AE. BBC - Basic Building Code, Building Officials and Code Administrators International  
AF. BHMA - Builders Hardware Manufacturer's Association  
AG. CBM - Certified Ballast Manufacturers  
AH. CEMA - Conveyors Equipment Manufacturer's Association

AI. CGA - Compressed Gas Association  
AJ. CMA - Concrete Masonry Association  
AK. CRSI - Concrete Reinforcing Steel Institute  
AL. EIA - Electronic Industries Association  
AM. ETL - Electrical Test Laboratories  
AN. EPA - Environmental Protection Agency  
AO. FM - Factory Mutual System  
AP. FPL - Forest Products Laboratory  
AQ. HI - Hydronics Institute  
AR. IAPMO - International Association of Plumbing and Mechanical Officials  
AS. ICBO - International Conference of Building Officials  
AT. IEEE - Institute of Electrical and Electronics Engineers  
AU. IES - Illuminating Engineering Society  
AV. IME - Institute of Makers of Explosives  
AW. IP - Institute of Petroleum (London)  
AX. IPC - Institute of Printed Circuits  
AY. ISA - Instrument Society of America  
AZ. ISO - International Organization for Standardization  
BA. ITE - Institute of Traffic Engineers  
BB. MBMA - Metal Building Manufacturer's Association  
BC. MPTA - Mechanical Power Transmission Association  
BD. MSS - Manufacturing Standardization Society  
BE. NAAMM - National Association of Architectural Metal Manufacturer's  
BF. NACE - National Association of Corrosion Engineers  
BG. NBS - National Bureau of Standards  
BH. NEC - National Electrical Code  
BI. NEMA - National Electrical Manufacturer's Association  
BJ. NFPA - National Fire Protection Association  
BK. NFPA - National Forest Products Association  
BL. NLGI - National Lubricating Grease Institute  
BM. NMA - National Microfilm Association  
BN. NSF - National Sanitation Foundation  
BO. NWMA - National Woodwork Manufacturers Association  
BP. OSHA - Occupational Safety and Health Administration  
BQ. PCA - Portland Cement Association  
BR. PPI - Plastics Pipe Institute  
BS. RCRA - Resource Conservation and Recovery Act  
BT. RVIA - Recreational Vehicle Industry Association  
BU. RWMA - Resistance Welder Manufacturer's Association  
BV. SAE - Society of Automotive Engineers  
BW. SAMA - Scientific Apparatus Makers Association  
BX. SMA - Screen Manufacturers Association  
BY. SMACCNA - Sheet Metal and Air Conditioning Contractors National Association  
BZ. SPI - Society of the Plastics Industry, Inc.

- CA. SPIB - Southern Pine Inspection Bureau
- CB. SPR - Simplified Practice Recommendation
- CC. SSBC - Southern Standard Building Code, Southern Building Code Congress
- CD. SSPC - Steel Structures Painting Council
- CE. SSPWC - Standard Specifications for Public Works Construction
- CF. UBC - Uniform Building Code
- CG. UL - Underwriters Laboratories, Inc.
- CH. WCLIB - West Coast Lumber Inspection Bureau
- CI. WCRSI - Western Concrete Reinforcing Steel Institute
- CJ. WEF - Water Environment Federation
- CK. WIC - Woodwork Institute of California
- CL. WRI - Wire Reinforcement Institute, Inc.
- CM. WWPA - Western Wood Products Association

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 4219**  
**REFERENCE STANDARDS**

**PART 1 GENERAL**

**1.01 GENERAL**

- A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.
- C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the Contractor.

**1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS**

- A. Without limiting the generality of other requirements of the Specifications, all work specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the documents listed in Part 2.
- B. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- C. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

**1.03 QUALITY ASSURANCE**

- A. The Contractor shall construct Work specified herein by reference to the Contract Document and the referenced portions of those referenced codes, standards, and specifications listed herein.
- B. Should specified code, reference standards or drawings conflict with Contract Documents, the most stringent requirements shall govern. Request clarification from the Architect before proceeding. The Contractor shall bid for the most stringent requirements.
- C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

**1.04 REGULATIONS RELATED TO HAZARDOUS MATERIALS**

- A. The Contractor is responsible that all work included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.
- B. Where no specific regulations exist, all chemical, hazardous, and petroleum product piping and storage in underground locations must be installed with double containment piping and tanks,

or in separate concrete trenches and vaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the Owner.

**PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS**

- 2.01 AASHTO -- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS**
- 2.02 ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL**
- 2.03 ADA -- AMERICAN DISABILITIES ACT**
- 2.04 AGC -- ASSOCIATED GENERAL CONTRACTORS OF AMERICA**
- 2.05 ANSI -- AMERICAN NATIONAL STANDARDS INSTITUTE**
- 2.06 ASTM A SERIES -- ASTM INTERNATIONAL**
- 2.07 AWS -- AMERICAN WELDING SOCIETY**
- 2.08 AWWA -- AMERICAN WATER WORKS ASSOCIATION**
- 2.09 FS -- FEDERAL SPECIFICATIONS**
- 2.10 NEC -- NATIONAL ELECTRICAL CODE**
- 2.11 NECA -- NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION**
- 2.12 NESC - NATIONAL ELECTRICAL SAFETY CODE**
- 2.13 OTHER STANDARDS AND CODES WHICH MAY BE APPLICABLE TO ACCEPTABLE STANDARDS OF THE INDUSTRY FOR EQUIPMENT, MATERIALS, AND INSTALLATION UNDER THE CONTRACT.**

**END OF SECTION**

**SECTION 01 5000**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Temporary Utilities.
- B. Temporary Water Service.
- C. Temporary Sanitary Facilities.
- D. Water Control.
- E. Protection of Installed Work.
- F. Temporary Controls: Barriers, enclosures.
- G. Security Requirements.
- H. Vehicular Access and Parking.
- I. Waste Removal.

**1.02 TEMPORARY UTILITIES**

- A. Contractor shall provide and pay for all electrical power, lighting, heating and cooling, and ventilation required for construction purposes.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.
- C. The City will provide water for use during construction.

**1.03 TEMPORARY HEAT**

- A. Contractor shall provide and pay for heat devices and heat as required to maintain specified conditions for construction operations.

**1.04 TEMPORARY WATER SERVICE**

- A. Make suitable arrangements for temporary water service if water is needed for construction or testing. There will be no cost to the Contractor for water used. Contractor is to coordinate with City Public Works Staff if water is required.

**1.05 TEMPORARY SANITARY FACILITIES**

- A. Provide and maintain required facilities and enclosures for Contractor's workers, Engineer's personnel, Owner's personnel and testing firm personnel working at project site. Provide at time of project mobilization.
- B. Use of existing facilities is not permitted.
- C. Portable toilets shall be acceptable. Comply with all applicable codes and regulations. Arrange for regular cleaning and/or replacement of portable toilets.
- D. Maintain daily in clean and sanitary condition.

**1.06 WATER CONTROL**

- A. Conform to the regulations and requirements of legally authorized surface water management agencies.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Keep trenches and other areas free from water as required to permit continuous progress of work, to prevent damage to Contractor's work, and to work of others. Refer to Section 31 2319 for dewatering.
- D. Conduct operations in such a manner to prevent sediment from reaching existing sewers and storm drains.
- E. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

- F. Cover exposed excavated areas and spoil piles when runoff from rain is likely to cause turbidity to enter local waterways. Suspend work in the rain if such work cannot be performed without causing turbid runoff.
- G. Prevent solids or turbid runoff from entering local waterways. Cover, secure and /or berm excavated area and spoil piles.

#### **1.07 PROTECTION OF INSTALLED WORK**

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

#### **1.08 BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations.
- B. **No open holes will be allowed at the end of each working day.**

#### **1.09 EXTERIOR ENCLOSURES**

- A. Provide temporary insulated weather tight closure of exterior openings to enclose Owner-occupied areas, to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

#### **1.10 INTERIOR ENCLOSURES**

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

#### **1.13 SECURITY**

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.

#### **1.14 VEHICULAR ACCESS AND PARKING**

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Maintain existing roads.
- C. Coordinate access and haul routes with governing authorities and Owner.
- D. Provide and maintain access to fire hydrants, free of obstructions.
- E. Provide means of removing mud from vehicle wheels before entering streets.
- F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- G. Do not allow vehicle parking on existing pavement.

#### **1.15 WASTE REMOVAL**

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

- B. Minimize trash/waste disposal in landfills by reuse, salvage, or recycling as much waste as economically feasible.
- C. Provide at a minimum, the following recycling containers or facilities to separate, store, protect, and handle at the site identified recyclable waste products. Note that the list of products herein is not all inclusive and a sanitary service provider should be consulted for additional details.
  - 1. Wood Container - intended for wood products with nails up to 8 inches.
  - 2. Metal Container - intended for metal products and electrical wiring.
  - 3. Single Stream Container - intended for chipboard, newspaper, office paper, rolls of paper, specialty paper grades, steel and aluminum cans, glass bottles, plastic bottles, plastics #1-7 (bubble wrap, shrink wrap), and cardboard.
  - 4. Garbage Container - intended for tar paper, shingles, plastics with reinforcement such as fiberglass or wire lining, sheetrock, mirrors, styrofoam, insulation, fast food bags or cups, and paper with a waxed coating.
- D. Provide containers with lids. Remove trash from site periodically.
- E. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

**1.16 CLEAN UP**

- A. Street Cleaning:
  - 1. Prevent dirt and dust from escaping trucks departing the project site by covering dusty loads, washing truck tires before leaving the site, or other reasonable methods.
  - 2. Clean paved streets and roadways as required by the Engineer to remove dirt caused by the contractor's activities.
  - 3. If above requirements are violated and no action taken after notification of infraction by Engineer, Owner reserves the right to have streets in question cleaned. The expense of the operation shall be charged to the Contractor.

**1.17 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.
- B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.
- E. Restore new permanent facilities used during construction to specified condition.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 01 6000**  
**PRODUCT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Submittals.
- B. Warranty.
- C. General Product Requirements.
- D. Re-use of Existing Products.
- E. Transportation, Handling, Storage and Protection.
- F. Product Option Requirements.
- G. Substitution Limitations and Procedures.
- H. Procedures for Owner-Supplied Products.
- I. Spare Parts and Maintenance Materials.

**1.02 SUBMITTALS**

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
  - 1. Submit within 15 days after date of Notice to Proceed.
  - 2. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
  - 1. After review, distribute in accordance with Article on Procedure above and for Record Documents described in Section 01 7800.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
  - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

**1.03 WARRANTY**

- A. All Products as defined below shall be provided with manufacturer's full warranty against defects in materials and workmanship for two years after date of substantial completion, including all parts, labor, and expenses, unless otherwise required in individual specification Sections. This manufacturer's warranty shall be in addition to the Contractor's guarantee secured by the Performance and Maintenance Bond - Section 00610.
- B. Substantial Completion. In addition to the definition provided in the General Conditions, the following applies: Sufficient completion of the project or the portion thereof to permit utilization of the project, or portion thereof for its intended purpose. Substantial completion requires not only that the work be sufficiently completed to permit utilization, but that the Owner can effectively utilize the substantially completed Work. Determination of substantial completion is solely at the discretion of the Owner. Substantial completion does not mean complete in accordance with the Contract nor shall substantial completion of all or any part of the project entitle the Contractor to acceptance under the Contract.
- C. Final Completion. When the Engineer deems the Project and Punch List fully complete in accordance with Plans and Specification, and when all items including but not limiting to: excess building materials, concrete forms, construction trailers, field offices, and temporary traffic control have been removed from site, the Engineer shall notify the Owner in writing and recommend final acceptance of work. Sales and Use Tax Forms and Lien Waivers do not

have to be completed but are encouraged to be completed as a condition of Final Completion. The date of final completion shall be the date the Engineer's written recommendation of final acceptance to the Owner.

## **PART 2 PRODUCTS**

### **2.01 PRODUCTS**

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- C. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- D. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.
- E. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

### **2.02 NEW PRODUCTS**

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Do not use products having any of the following characteristics:
  - 1. Made using or containing CFC's or HCFC's.

### **2.03 PRODUCT OPTIONS**

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

### **2.04 MAINTENANCE MATERIALS**

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

## **PART 3 EXECUTION**

### **3.01 SUBSTITUTION PROCEDURES**

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- D. A request for substitution constitutes a representation that the submitter:
  - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
  - 2. Will provide the same warranty for the substitution as for the specified product.
  - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
  - 4. Waives claims for additional costs or time extension that may subsequently become apparent.

5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
  1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
  2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
  3. The Architect will notify Contractor in writing of decision to accept or reject request.

### **3.02 OWNER-SUPPLIED PRODUCTS**

- A. Owner's Responsibilities:
  1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
  2. Arrange and pay for product delivery to site.
  3. On delivery, inspect products jointly with Contractor.
  4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
  5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
  1. Review Owner reviewed shop drawings, product data, and samples.
  2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
  3. Handle, store, install and finish products.
  4. Repair or replace items damaged after receipt.

### **3.03 TRANSPORTATION AND HANDLING**

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

### **3.04 STORAGE AND PROTECTION**

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Provide off-site storage and protection when site does not permit on-site storage or protection.
  1. Contractor shall be paid for materials and equipment stored off-site, upon proper documentation of delivery, control and protection of said materials and equipment. Contractor's insurance shall be in full force at this off-site location for complete protection of said materials and equipment.

- G. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- H. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

**END OF SECTION**

**SECTION 01 7000**  
**EXECUTION AND CLOSEOUT REQUIREMENTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Submittals.
- B. Coordination
- C. Examination, Preparation, and General Installation Procedures.
- D. Requirements for alterations work, including selective demolition , except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- E. Pre-installation Meetings.
- F. Cutting and Patching.
- G. Alterations.
- H. Laying Out the Work.
- I. General Installation Requirements.
- J. Progress Cleaning.
- K. Starting Systems.
- L. Demonstration and Instruction.
- M. Closeout Procedures.

**1.02 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
  - 1. On request, submit documentation verifying accuracy of survey work.
  - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
  - 3. Submit surveys and survey logs for the project record.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather-exposed or moisture-resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight exposed elements.

**1.03 QUALIFICATIONS**

- A. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

**1.04 PROJECT CONDITIONS**

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

1. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
  2. Minimize dust nuisance by cleaning, sweeping, vacuum sweeping, sprinkling with water, or other means. The use of water in amounts that result in mud on public streets or roads is not an acceptable substitute for sweeping. Equipment for this operation shall be available at all times.
- F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
1. Minimize amount of bare soil exposed at one time.
  2. Provide temporary measures such as silt fences, filter fabric, sedimentation ponds, placement berms, dikes, and drains, to prevent water flow.
  3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
  4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- H. Pest Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- I. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- J. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.
1. Discharge of smoke, dust, and other contaminants into the atmosphere that violate applicable Federal, State and local regulations is not allowed. Internal combustion engines shall not be allowed to idle for prolonged periods of time. The Contractor shall maintain construction vehicles and equipment in good repair. Exhaust emissions that are determined to be excessive by the Engineer shall be repaired or replaced.

## **1.05 COORDINATION**

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements , with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. Coordinate completion and clean-up of work of separate sections.

## **PART 2 PRODUCTS**

### **2.01 PATCHING MATERIALS**

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

### **3.02 PREPARATION**

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

### **3.03 PREINSTALLATION MEETINGS**

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
  1. Review conditions of examination, preparation and installation procedures.
  2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

### **3.04 LAYING OUT THE WORK**

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on Drawings.
- E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- G. Utilize recognized engineering survey practices.
- H. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means.
- I. Periodically verify layouts by same means.
- J. Maintain a complete and accurate log of control and survey work as it progresses.
- K. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

### **3.05 GENERAL INSTALLATION REQUIREMENTS**

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

- B. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- C. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- D. Materials: As specified in product Section; match existing products and work for patching and extending work.
- E. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- F. Remove, cut, and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
- G. Make neat transitions between different surfaces, maintaining texture and appearance.

### **3.06 ALTERATIONS**

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
  - 1. Verify that construction and utility arrangements are as shown.
  - 2. Report discrepancies to Architect before disturbing existing installation.
  - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
  - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 5000 in locations indicated on drawings.
- C. Remove existing work as indicated and as required to accomplish new work.
  - 1. Remove items indicated on drawings.
  - 2. Relocate items indicated on drawings.
  - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
  - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
  - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
  - 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
  - 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    - b. See Section 01 1000 for other limitations on outages and required notifications.
    - c. Provide temporary connections as required to maintain existing systems in service.
  - 4. Verify that abandoned services serve only abandoned facilities.
  - 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- E. Protect existing work to remain.
  - 1. Prevent movement of structure; provide shoring and bracing if necessary.

2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
  3. Repair adjacent construction and finishes damaged during removal work.
  4. Patch as specified for patching new work.
- F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
  - G. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
  - H. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
  - I. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
  - J. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
    1. Patch as specified for patching new work.
  - K. Clean existing systems and equipment.
  - L. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
  - M. Do not begin new construction in alterations areas before demolition is complete.
  - N. Comply with all other applicable requirements of this section.

### **3.07 CUTTING AND PATCHING**

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
  1. Complete the work.
  2. Fit products together to integrate with other work.
  3. Provide openings for penetration of mechanical, electrical, and other services.
  4. Match work that has been cut to adjacent work.
  5. Repair areas adjacent to cuts to required condition.
  6. Repair new work damaged by subsequent work.
  7. Remove samples of installed work for testing when requested.
  8. Remove and replace defective and non-conforming work.
- D. Execute cutting, fitting, and patching, including excavation and fill, to complete Work, and to:
  1. Fit the several parts together, to integrate with other Work.
  2. Uncover Work to install or correct ill-timed Work.
  3. Remove and replace defective and non-conforming Work.
  4. Remove samples of installed Work for testing.
  5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
- J. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
  2. Match color, texture, and appearance.
  3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
- K. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- L. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
- M. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.
- N. Identify any hazardous substance or condition exposed during the Work to the Engineer for decision or remedy.

### **3.08 PROGRESS CLEANING**

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- C. After painting begins or permanent heating system is started, use vacuum cleaning in lieu of broom cleaning methods.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and properly dispose off-site; do not burn or bury.

### **3.09 PROTECTION OF INSTALLED WORK**

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- D. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- E. Prohibit traffic from landscaped areas.

### **3.10 SYSTEM STARTUP**

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect and owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible manufacturer's representative in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01 4000 that equipment or system has been properly installed and is functioning correctly.

- I. Perform subsequent testing, adjusting, and balancing of equipment and systems as required to provide operation according to the manufacturer's recommendations and the Contract Documents.

**3.11 DEMONSTRATION AND INSTRUCTION**

- A. Demonstrate operation and maintenance of products to Owner's personnel prior to date of Substantial Completion.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at designated location.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

**3.12 CLOSEOUT PROCEDURES**

- A. Make submittals that are required by governing or other authorities.
  - 1. Provide copies to Engineer.
- B. Notify Engineer when work is considered ready for Final Completion.
- C. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- E. Submit Contractor's Statement listing all the State in which the Project is located sales/use taxes, waivers of liens from all Subcontractors and suppliers, and other items required by the Contract Documents.

**END OF SECTION**

## SECTION 01 7413

### CLEANING

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Cleaning during progress and at the completion of the Work as required by General Conditions.

##### 1.02 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

##### 1.03 RESPONSIBILITIES AND COORDINATION BETWEEN PRIME CONTRACTORS

- A. Contractor is responsible for cleaning their own installed materials and equipment, both during and at the completion of construction. Each Contractor is responsible for removing and disposing waste, rubbish, and debris off the site in an approved landfill area.
- B. If Contractor fails to clean exposed surfaces and/or remove debris from site, the Owner may clean up and charge the cost to the Contractor responsible as the Owner determines to be just.
- C. Contractor is responsible for final cleaning of floors, walks, and grounds.

#### PART 2 PRODUCTS

##### 2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

#### PART 3 EXECUTION

##### 3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.
- B. Remove waste materials, debris, and rubbish from the site periodically and dispose of at legal disposal areas away from the site.
- C. After painting begins or permanent heating system is started, use vacuum cleaning in lieu of broom cleaning methods.

##### 3.02 FINAL CLEANING

- A. In addition to the requirements for clean-up as specified in the General Conditions, the Contractor shall remove to the Owner's satisfaction, all asphalt or concrete spilled on or around the site. Dispose of all rubbish and debris from the site in an approved landfill area.
- B. Employ skilled workmen for final cleaning.
- C. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- D. Prior to final completion, or Owner occupancy, the Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas to verify that the entire work is clean.

**END OF SECTION**

**SECTION 01 7800  
CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Instruction of Owner's Personnel.
- D. Warranties and Bonds.

**1.02 SUBMITTALS**

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
  - 2. Submit three paper copies and an electronic copy of approved data in final form prior to final inspection or acceptance.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed shop drawings, product data, and samples.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and modifications.
- F. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths to project datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimension and detail.
  - 5. Details not on original Contract drawings.

- G. Submit documents to Engineer prior to claim for final Application for Payment.

### **3.02 OPERATION AND MAINTENANCE DATA**

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data for particular installation. Organize in consistent format under separate headings for different procedures. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- E. Copy of each warranty, Bond, and service contract issued. Provide information sheet for Owner's personnel, giving proper procedures in event of failure and instances which might affect validity of warranties or Bonds.

### **3.03 WARRANTIES AND BONDS**

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include photocopies of each in operation and maintenance manuals, indexed separately on Table of Contents.

**END OF SECTION**

## SECTION 02 1000

### SPECIFICATIONS/SPECIAL PROVISIONS

City of McHenry, Illinois

Kane Ave. Watermain Replacement

Job No.: 2402108

The following Specifications/Special Provisions supplement the General Conditions and Supplemental Conditions and, in case of conflict, these Specifications shall take precedence and shall govern. The work to be performed and included in this project shall include the furnishing of all labor, material transportation, tools, supplies, plant, equipment, and appurtenances necessary for the complete and satisfactory construction of the work described within these specifications. In case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and shall govern.

#### ***Location of the Project***

The water main replacement will be undertaken at the west end of Kane Ave under the railroad towards Sioux Ln. in the City of McHenry, Illinois.

#### ***Description of the Project***

In general, the nature of the improvements will consist of installing watermain casing under the railroad, installing watermain, installing insertion valve, cutting and capping existing watermain and abandoning existing watermain and all incidental and collateral work necessary to complete the project as shown on the plans and described herein.

#### ***Standard Specifications***

The Contractor shall perform all work in conformance with applicable sections of the Standard Specifications for Road and Bridge Construction, latest edition by the State of Illinois, Department of Transportation, including all supplements, the Standard Specifications for Water and Sewer Main Construction in Illinois, prepared by the Illinois Society of Professional Engineers, Consulting Engineers Council of Illinois, et al., current edition, and the Project Specifications as contained within the approved engineering plan set entitled "**Kane Ave. Watermain Replacement**" latest revisions.

***Any pay item not detailed in this section shall be paid for by the special provisions listed above. If a conflict or questions regarding payment of an item is discovered by the Contractor, this must be clarified, in writing by the City prior to the contractor proceeding with the work.***

## **Safety**

The Engineer has not been retained or compensated to provide design and construction review services relating to the Contractor's safety precautions or to means, methods, techniques, sequences, or procedures required for the Contractor to perform his work.

## **Guarantee**

All work performed under this contract shall be guaranteed by the Contractor and his surety against all defects in materials and workmanship of whatever nature for a period of twelve (12) months from the date of final payment for the work by the Owner.

Before acceptance by the Owner and final payment, all work shall be inspected and approved by the Owner or his representative.

## **Pre-Construction Conference**

A pre-construction conference shall be held with the City prior to work starting. At this time the Contractor shall submit a Progress Schedule to the City for review. The Contractor shall also provide a list of the intended source of materials and the intended list of subcontractors to be used with respect to the project.

The Contractor shall provide original proof of insurance and all required financial guarantees at or prior to this meeting.

## **Project Duration/ Working Hours**

The project shall be substantially complete by April 16, 2025, as specified here in.

The Contractor will be allowed to complete all clean-up work and punch list items within 10 guaranteed working days after the completion date. Under extenuating circumstances the City Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the guaranteed working days allowed for cleanup work and punch list items.

If the project is not completed within the above time frame, the Contractor is susceptible to any and all liquidated damages provided for in Article 108.09 of the Standard Specifications. No allowance will be made for delay or suspension of work due to the fault of the Contractor.

The Contractor must adhere to the City ordinance work time schedule.

**Construction work must be performed during the hours of 7:00 a.m. to 8:00 p.m., Monday thru Friday and 8:00 am to 4:00pm on Saturday.** Saturday work requires a request with a minimum 3 days advanced notice, subject to approval by the Public Works Director. No work must be performed prior to or beyond this period.

### ***Insurance Requirements***

The Contractor shall indemnify and hold harmless the Awarding Authority (the City of McHenry), the Engineer (HR Green, Inc.), and their employees in accordance with Article 107.26 of the Standard Specifications.

The Contractor shall obtain and shall furnish to the Engineer, prior to beginning any work, certificates of insurance in accordance with the requirements of Article 107.27 of the Standard Specifications naming the Awarding Authority, Union Pacific Railroad Company and the Engineer as additionally insured parties.

### ***Maintenance Guarantee***

A Maintenance Guarantee in the amount of 10% of the final cost of all improvements related to the Kane Ave. Watermain Replacement shall be posted with the City for the purpose of:

Guaranteeing and securing the correction of any defect in material or workmanship furnished for such improvements, latent in character and not discernable at the time of final inspection or acceptance by the City; and

Guaranteeing against any damage to such improvements by reason of the settling of ground, base of foundation thereof.

Such Maintenance Guarantee shall also provide that, if such defects have so developed and have not been corrected by developer, then the guarantee may be applied by the City to correct such defects.

**The contractor shall guarantee for one (1) year all work against all defects.**

The Sure or Sureties issuing the bond must be acceptable to the Village and must have a Best's Key Rating Guide rating of "A-", Class XI or greater and be listed in the most recently published "Listing of Approved Sureties of the U.S. Department of Treasury Circular 570, with underwriting limitations in excess of the Contract Price.

The cost of the maintenance bond shall not be paid for separately, but will be considered incidental to the contract.

**The Maintenance Bond must be in place with the City prior to release of the final payment.**

### ***Preconstruction Video Taping***

The Contractor shall prepare pre-construction video documentation of all features in the area affected by construction. All preconstruction recording shall be conducted with digital format equipment. Pre-construction video documentation shall consist of a series of high-resolution, color, Digital Versatile Discs (DVD)s showing all areas to be affected by construction.

All pertinent exterior features within the project's zone of influence shall be shown in sufficient detail as to document its pre-construction condition. Features

to be documented shall include, but not be limited to, pavements, curbs, driveways, sidewalks, retaining walls, buildings, landscaping, trees, shrubbery, fences and light poles. View orientation shall be maintained by audio commentary on each DVD to explain what is being viewed.

Two (2) copies of the completed DVD(s) shall be delivered to the Engineer or Owner representative prior to the preconstruction meeting. This work will be paid for at the contract lump sum price for PRECONSTRUCTION VIDEO TAPING.

### ***Construction Layout***

The Contractor is responsible for all of the construction layout on the project. Layout information including benchmarks, centerline information and station and offset information for the structures have been provided within the plan set. This work will be paid for at the contract LUMP SUM price for CONSTRUCTION LAYOUT.

### ***Mobilization***

This work shall conform to Section 670 of the Standard Specifications and consist of any necessary preparatory work and operations necessary for the movement of personnel, equipment, supplies, and other incidentals to the project site. This work will be paid for at the contract lump sum price for MOBILIZATION.

### ***Traffic Control and Protection***

The Contractor should take particular note of the applicable portions of Article 107.14 of the *Standard Specifications*. All signs, except those referring to daily lane closures, shall be post mounted in accordance with Standard 702001 for all projects that exceed a four-day duration. Construction signs referring to daytime lane closures during working hours shall be removed, covered or turned away from the view of the motorists during nonworking hours.

The Contractor shall furnish, erect, maintain and remove all signs, barricades, flaggers and other traffic control devices as may be necessary for the purpose of regulating, warning or guiding traffic and for providing the Detour per the Detour Plan. Placement and maintenance of all traffic control devices shall be as directed by the Engineer and in accordance with the applicable parts of Section 701 of the *Standard Specifications*, the Illinois Manual on Uniform Traffic Control Devices for Streets and Highways, the Highway Standard and Detour Plan contained herein.

Special attention is called to Article 107.99 and Sections 701 and 702 of the *Standard Specifications* and the following Highway Standards relating to traffic control: Standard 701001, 701006, 701301, 701501, 701701, 701801, and, 701901.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadways affected by the work. The Contractor shall arrange his operations to keep the closing of any lane of the roadway to a minimum. Should any lane closures be required, the Contractor shall give the Engineer at least forty-eight hours (48) hours advance notice and provide adequate information regarding the traffic control measures to be employed.

It is the intent of the project to maintain local traffic on Kane Ave. Should a road closure be necessary, coordination with the Engineer and the City shall be required prior to the closure occurring.

This item of work will be measured on a lump sum basis for furnishing, installing, maintaining, replacing, relocating and removing the traffic control devices required in the plans and these Special Provisions.

None of the signs or barricades shown on the Detour Plan may block or be mounted on the existing regulatory signs or be mounted on any traffic control poles or trees.

This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, which price shall be payment in full for all labor, materials, transportation, handling and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications. The salvage value of the materials removed shall be reflected in the bid price for this item.

### ***Protection and Restoration of and Access to Property***

This work shall be performed according to Article 107.20 of the *Standard Specifications*.

All existing wood guardrail within the disturbed area, shall be removed by the Contractor and reinstalled by the Contractor once the work has been completed in the area. This work shall be paid for at the contract unit price per foot for WOOD GUARDRAIL REMOVAL AND REINSTALLATION.

The Contractor shall make every effort to avoid disturbing any existing residential landscaping, walkways, etc., that are not within the disturbed area indicated on the plans. If damage occurs, the Contractor shall replace, in kind, the residential item/s at his own expense to the satisfaction of the Engineer. All vegetation shall be replaced with the same size and type.

The Contractor shall make every effort to provide all residents with access to their driveways at the end of each work day. **No open holes shall be allowed on the job site at the end of the working day.**

### ***Exploratory Trench (Special)***

At locations designated by the Engineer, the Contractor shall excavate a trench

to determine the location and elevation of known or suspected underground utility facilities. The Contractor is to use caution in the location of all underground utility facilities. The Contractor shall be responsible for the repair of any damaged facilities so long as those facilities are not a substantially different locations or elevations than are marked or otherwise located by the responsible utility company.

This work shall include the excavation and restoration of all Exploratory Excavations and shall be paid for at the contract unit price per FOOT for EXPLORATORY TRENCH (SPECIAL) which price shall include all labor, material and equipment necessary to perform the work. Placement and compaction of any required trench backfill material shall be considered included in this unit price. No additional compensation shall be allowed.

### ***Disposal of Materials***

The Contractor shall dispose of all excess materials (soil, pavement, sidewalk, curb and gutter, etc.) at locations provided by him at his own expense.

### ***Water Main***

This work shall be accomplished according to Section 41 of the Standard Water and Sewer Specifications and Section T-2 of the City of McHenry's Subdivision Control Ordinance and shall consist of excavation; bracing; bedding and cover; pipe joint restraint; trench dewatering; trench backfilling with excavated materials; testing; disinfecting; finish grading; removal and disposal of waste excavated materials; protection; replacement or repair of existing utilities. All removal of existing fittings and installation of new fittings shall be considered included in this item of work. The Water Main shall be constructed of PVC plastic pipe (C900) complying with ASTM D1784. **All pipe and fittings shall be made in the USA.**

A trace wire shall be installed with all water main and service lines. The material specification shall match that called for on the plan set in the Water Distribution Notes, section 4.B. and shall be Trace –Safe. Installation of the trace ware system shall be included in the cost of the water main installation. No additional compensation shall be allowed.

This work will be paid for at the contract unit price per foot for WATER MAIN, 8", PVC (C-900); WATER MAIN, 12", PVC (C-900); and WATER Main, 12", PVC (C-900)(Trenchless) as specified and shown on the plans, which prices shall include all labor, equipment, excavation, backfill and removal of excess spoils, bedding and initial backfill, joint materials and restraints, pipe and fittings, hydrostatic tests, disinfection of the Water Main, trench backfill and shall be measured for payment along the installed centerline of pipe.

### ***Connection to Existing Water Main 12"***

The Contractor shall perform cut-in connections to the existing water main at

locations shown in the Plan and in accordance with applicable sections of the Water and Sewer Specification.

This work shall consist of furnishing and installing all material and providing all labor necessary to connect the proposed water main to the existing water system, the removal of existing water main for connection purposes, and capping or plugging the existing water main to be abandoned. All workmanship and materials shall conform to the City of McHenry standards.

The labor, equipment, and materials for removal or cutting of any casing pipe to install water main or make a connections shall be included in this pay item and no additional payments will be made.

All new connections shall be made utilizing a tee and valves as shown on the plans. In addition, all removal of existing water main connections shall be made by completely removing the existing connection (cutting and removing the existing tee and/or tap) and installing a new section of water main in its place.

This work will be paid for at the contract unit price per EACH for CONNECTION TO EXISTING WATER MAIN 12". The price shall include all labor, equipment, excavation, backfill and removal of excess spoils, bedding, dewatering and initial backfill to complete the work.

### ***Water Main To Be Abandoned***

Water mains shall be abandoned by saw cutting the main at the point to be abandoned, filling the CLSM (Controlled Low-Strength Material) and installing a mechanical joint plug or cap. Bricking and mortaring the main to be abandoned will not be allowed. The Contractor shall be responsible for dewatering the trench, which cost is considered included to the price of abandonment of water main.

#### **CLSM Design**

- Material shall have an unconfined compressive strength 300psi. This provides strength while allowing future removal if necessary.
- The mixture shall consist of water, Portland cement, fly ash, and sound fine or coarse aggregate or both.
- The mix design shall allow adequate flowability without segregation of aggregates.
- Hardening time is of prime importance and CLSM should develop 50psi in about one hour.
- The maximum layer of thickness for CLSM shall be 3 feet.
- Additional layers shall not be placed until the CLSM has lost sufficient moisture.
- For pipelines or structures with a depth greater than 3 feet, CLSM shall be placed in lifts.
- Contractor should verify no voids will be present after filling the structure.

Caps shall be ductile iron and equipped with rubber gaskets to prevent the infiltration of water and/or sediment. Installation of caps or plugs must be witnessed by the Village or its authorized representative prior to backfilling. This work will be paid for at the contract unit price per FOOT for WATER MAIN TO BE ABANDONED, 6" and WATER MAIN TO BE ABANDONED, 12", which price shall include all labor, material and equipment necessary to perform the work.

***Cut and Cap Existing 6" Water Main/Cut and Cap Existing 12" Water Main***

This work shall consist of cutting and capping existing water main at the locations shown on the plans.

This work includes locating the existing water main, excavation and removal and disposal of excavated material, sheeting as required, temporary fencing of the work site as required, and backfilling of the excavation to the existing sub grade.

Caps shall be ductile iron designed to fit the water main.

The work shall be performed in accordance with Article 551 and 605 of the Standard Specifications, Division IV of the Standard Specifications for Water and Sewer Main Construction in Illinois.

Excavation and backfill for water main removal shall conform to the typical sections shown in the plans and shall conform to the provisions of Sections 20, 21, and 22 of the Standard Specifications for Water & Sewer Main Construction in Illinois.

The Cutting and capping of the existing water main shall be completed prior to placing the water main back in service and shall be done in accordance with the construction requirements of the special provision "Connection to Existing Water Main" contained herein.

Blocking to prevent movement of lines under pressure at bends, tees, caps, valves, plugs and hydrants shall be a minimum twelve inch (12") thick Precast Portland Cement Concrete Block, placed between undisturbed soil and the fittings, and shall be anchored in such a manner that pipe and fitting joints will be accessible for repairs.

The cost of thrust blocking is considered included in the cost of the item being installed.

This work will be paid for at the contract unit price for EACH for CUT AND CAP EXISTING WATER MAIN at the size and type specified.

### ***Pressure Valve Insert, 6 Inch***

This work shall consist of furnishing an insertion valve for the existing six-inch (6") water main without shutdown. All manufacturer specifications and submittals shall be submitted to the Engineer for review and approval prior to installation. All materials shall meet applicable AWWA and ASTM standards. Insertion valve shall be AVT EZ Valve or Engineer Approved Equal.

Buried Insertion Valves shall be non-rising stem, and wrench operated. The valve assemblies shall be furnished complete and adequate for the specified or shown purpose, and shall include all essential components of equipment, together with all mountings and other appurtenances for proper operating adjustments and setting, and for freedom from vibration, binding, scraping, and other defects. Upon installation, the contractor shall also open and close the valve under pressure in the presence of the owner.

Prior to placing the valve, the water main to which the insertion valve apparatus will be attached shall be disinfected with chlorine. The insertion valve apparatus sleeve shall be disinfected with chlorine. Furthermore, the insertion valve shall be disinfected with chlorine prior to inserting the valve into the live water main.

All Insertion Valves and miscellaneous components shall be new, free from defects or contamination, and wherever possible shall be the standard product of the manufacturer. All Insertion Valves shall be provided as shown in the plans, schedules, and as specified herein.

This work shall be paid for at the contract unit price EACH for PRESSURE VALVE INSERT, 6 INCH.

### ***Valve Box***

This work shall include materials and installation of a valve box at locations shown on the plans and in accordance with applicable sections of the Standard Specification and the Water and Sewer Specification.

Valve box shall be an East Jordan 8555 Series slip type in pavements or an East Jordan 8550 Series screw type outside of pavements or approved equal. Valve box lids shall be a non-locking East Jordan 6800 Valve Box drop lid, or approved equal, with "WATER" stamped on the lid.

This work will be paid for at the contract unit price EACH for VALVE BOX. Price shall include the cost of all work specified herein and, in the detail, shown on the plans.

### ***Water Main Casing***

This pay item shall only be used where permitted on the design plans. This work shall include providing an 24-inch casing pipe and spacers for the water main

where it must cross under the railroad. The casing pipe shall be 24-inch steel casing as detailed on the plans. The casing shall be continuous either by one-piece fabrication or by field welded joints done in accordance with AWWA C206. The steel casing material shall have a minimum yield strength of 241,325 kpa (35,000 psi).

Casing spacers shall be used that have been sized precisely for the individual installation. The maximum allowable movement resulting from the spacer installation shall be 51 mm (2 in) in any direction within the casing pipe. The spacers shall be installed at a minimum of 10-foot intervals. If the carrier pipe sections measure less than 10 feet in length, provide a minimum of two (2) spacers per pipe section. Casing spacers shall be Cascade #CCs or approved equal. The ends of the casing pipe shall be sealed with boot and strap rubber seal. This work shall be in compliance with all applicable detail included in the approved plans and Section T-2 of the City of McHenry's Subdivision Control Ordinance.

Jacking pits and receiving pits shall be provided and excavated at the locations shown on the plans or as adjusted to accommodate field conditions and only when approved by the Engineer. The necessary OSHA compliant shoring or sheeting shall be provided for the jacking and receiving pits. The jacking and receiving pits shall be backfilled with granular trench backfill compacted to 95% density. All costs for excavation, disposal of excavated materials to an approved off-site disposal facility, installing and removing shoring or sheeting, installing and removing the thrust block, and granular trench backfill for the jacking and receiving shall be included in this pay item.

Cathodic protection will be designed and provided for the bore and jack steel casing pipe by the Contractor. Geotechnical services required for designing the cathodic protection system by the manufacturer shall be provided by the Contractor or their supplier. Show drawings will be provided to the Owner for review and approval of the selected system. The location for the cathodic protection flush test station shall be coordinated with the resident engineer and located outside the railroad right-of-way and off private property. The cost for design and installation of the cathodic protection is included in the 24" STEEL CASING WITH SPACERS pay item and shall not be paid for separately.

2" vents shall be required at each end of the casing pipe. It shall be extended 4 feet above ground surface. Vent pipe at low end of casing shall be connected with bottom of casing and vent at high end shall be connected with top of casing. Top of vent shall be fitted with down-turned elbow properly screened. The cost for the vents and installation is included in the 24" STEEL CASING WITH SPACERS pay item and shall not be paid for separately.

This work shall be paid for at the contract unit price per foot for 24" STEEL CASING WITH SPACERS, which price shall include the casing pipe, spacers, boot and strap rubber seal, vents, bore and jack installation, dewatering, labor and equipment necessary to complete this work.

### ***Disturbed Area Restoration***

This work shall include the restoration of all turf areas disturbed by the work. The Contractor shall be limited in payment to an area as indicated on the approved engineering plan set for this project. Any damage beyond that limit will be the sole responsibility of the Contractor to restore in accordance with the terms of this Specification.

**Any condition deemed unsafe by the City Engineer must be remedied immediately. At the end of each day, all disturbed areas must be, at minimum, leveled off with the backhoe bucket to the satisfaction of the City Engineer.**

**Disturbed areas in front of any individual lot and/or group of lots must be restored to final grade, compacted, topsoil must be placed, and must be seeded, fertilized and blanketed no later than the first date of either the completion of fifty (50) water services or thirty (30) days following the completion of any individual water service.**

The restoration shall be performed in accordance with Section 200 of the *Standard Specifications* for Furnish and Placing Topsoil, Seeding and Placement of Excelsior Blanket.

This work shall be paid for at the contract unit price per square yard for FURNISH AND PLACING TOPSOIL, 4", and EROSION CONTROL BLANKET (EXCELSIOR), at the contract unit price per acre for SEEDING, CLASS 1, and at the contract unit price per pound for NITROGEN FERTILIZER NUTRIENT and POTASSIUM FERTILIZER NUTRIENT.

### ***Track & Ground Monitoring***

The Contractor is responsible for performing track and ground monitoring per the Union Pacific Railroad Guidelines for Track & Ground Monitoring which can be found on the Union Pacific website linked below:

[https://www.up.com/real\\_estate/index.htm](https://www.up.com/real_estate/index.htm)

This work shall be paid for at the contract unit price per lump sum for TRACK & GROUND MONITORING.

### ***Union Pacific's Railroad Flagging***

The Contractor is required provide flaggers and construction observation through Union Pacific Railroad Company's approved observer named below during all construction and installation work. Contractor to coordinate services with the named inspector:

Railpros Field Services  
Email: [RP.Utility@railpros.com](mailto:RP.Utility@railpros.com)

Phone: 682-223-5271

This work shall be paid for by the allowance listed on the bid form. The allowance is based on a flagger and observer for three (3) normal 8 hour days and one (1) 24 hour day.

**END OF SECTION**

# FINAL ENGINEERING PLANS FOR:

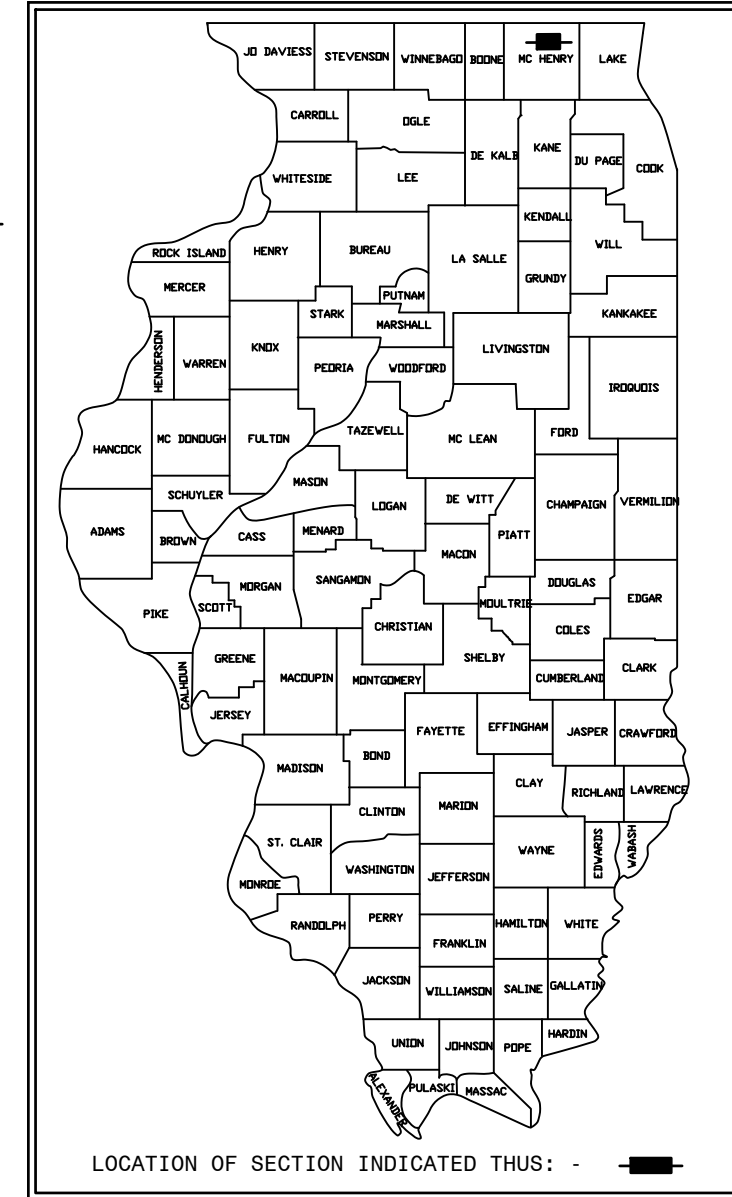
## KANE AVE.

### WATERMAIN REPLACEMENT

#### MCHENRY, ILLINOIS

#### MCHENRY COUNTY, ILLINOIS

#### CLIENT: CITY OF MCHENRY



**SITE BENCHMARKS:**

**SOURCE BENCHMARK:**  
NGS BENCHMARK DESIGNATION RV 9 CNWRR (PID NH0123)  
ELEVATION=763.42 (NAVD88)

**SITE BENCHMARK #55:**  
NORTHEAST BOLT ON THE FIRE HYDRANT IN FRONT OF WATER TOWER ON SIOUX LANE.  
ELEVATION=773.34 (NAVD88)

**SITE BENCHMARK #56:**  
NORTHEAST BOLT ON THE FIRE HYDRANT LOCATED ADJACENT TO 4016 W KANE AVENUE.  
ELEVATION=759.16 (NAVD88)

ALL COORDINATES ARE BASED ON ILLINOIS STATE PLANE COORDINATES - EAST ZONE (NAD83-2011)  
ELEVATIONS ARE BASED UPON THE NAVD 88 DATUM.

**PLANS PREPARED FOR:** CITY OF MCHENRY  
**CLIENT:** MR. STEVE WIRCH  
333 SOUTH GREEN ST.  
MCHENRY, ILLINOIS 60050  
815-363-2190

**ENGINEER / SURVEYOR:**  
HR GREEN INC.,  
1391 CORPORATE DRIVE, SUITE 203  
MCHENRY IL. 60050  
PHONE: (815) 385-1778

ANDY LEMKE, PE - PROJECT MANAGER  
TEL: (815) 759-8374

MIKE LEWIS, PROJECT DESIGNER  
PHONE: (815) 759-8340

JOHN BOLINE, PLS - LAND SURVEYOR  
PHONE: (815) 759-8375

Dial 811 or 1-800-892-0123 JULIE DESIGN TICKET NUMBER:# A241200917

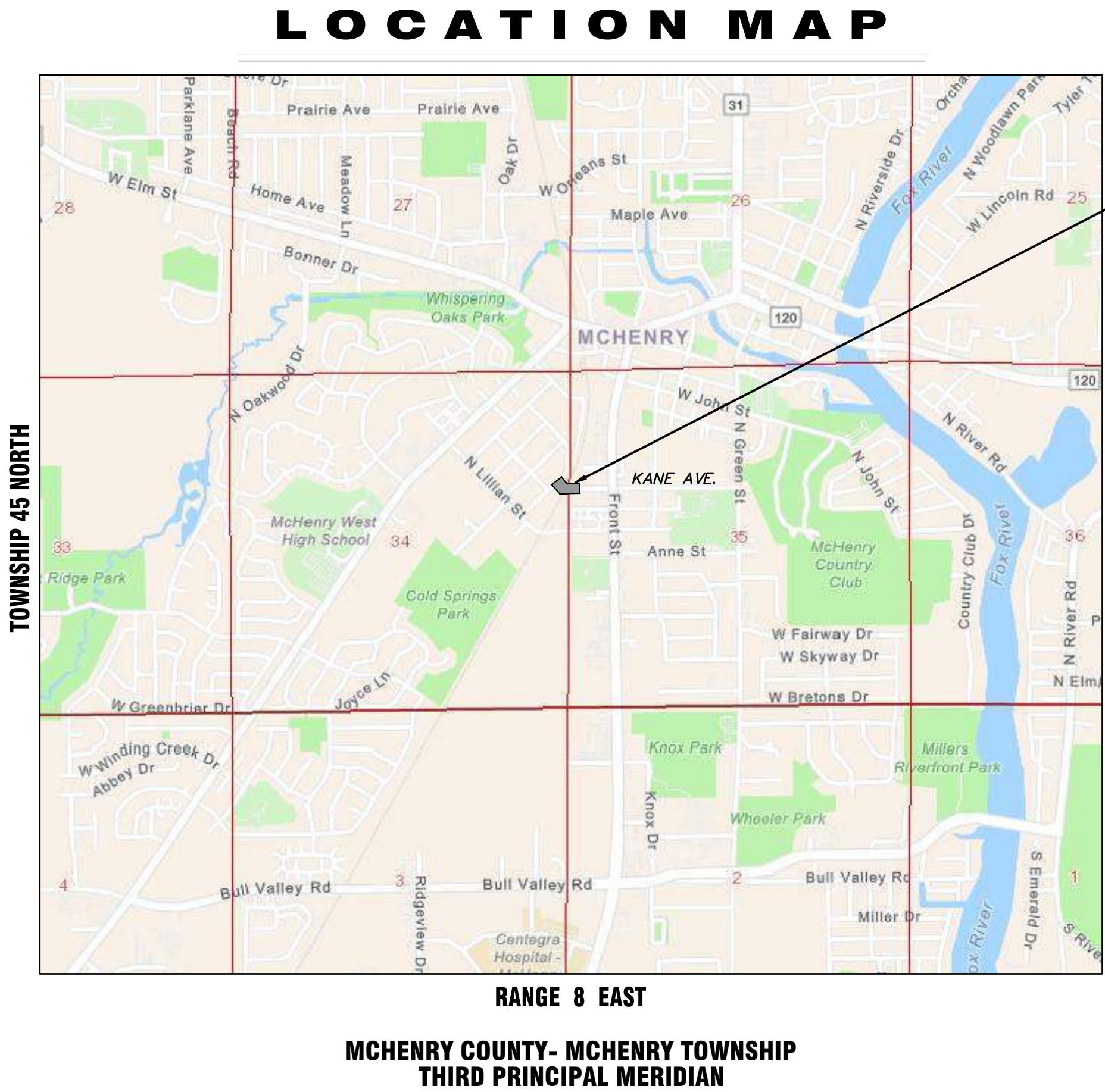
Know what's below.  
Call before you dig.

WITH THE FOLLOWING:  
COUNTY MCHENRY COUNTY  
CITY-TOWNSHIP MCHENRY COUNTY-MCHENRY TOWNSHIP  
SEC. & 1/4 SEC. NO.# 34.35-45N-8E

Two (2) working days before you dig  
(Excluding Sat., Sun. & Holidays)

**NOTE:**

- HR GREEN, INC. IS TO BE NOTIFIED 3 DAYS PRIOR TO CONSTRUCTION START.
- HR GREEN, INC. SHALL BE INCLUDED IN ALL PRE-CONSTRUCTION MEETINGS.
- ANY KNOWN DISCREPANCIES ON THIS PLAN SET MUST BE BROUGHT TO THE ATTENTION OF HR GREEN, INC. PRIOR TO THE START OF CONSTRUCTION.



PROJECT LOCATION

**Sheet List Table**

Sheet Number	Sheet Title
C-01	COVER SHEET
C-02	SUMMARY OF QUANTITIES AND SYMBOL LEGEND
C-03	SPECIFICATIONS, GENERAL NOTES
C-04	SPECIFICATIONS, GENERAL NOTES
C-05	KANE AVE. - PLAN AND PROFILE
C-06	EROSION CONTROL SPECIFICATIONS
C-07	EROSION CONTROL DETAILS (1)
C-08	EROSION CONTROL DETAILS (2)
C-09	STANDARD CONSTRUCTION DETAILS (1)
C-10	STANDARD CONSTRUCTION DETAILS (2)
C-11	IDOT - STANDARD CONSTRUCTION DETAILS (1)
C-12	IDOT - STANDARD CONSTRUCTION DETAILS (2)

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE  
DRIVE, SUITE 203  
MCHENRY, IL 60050  
PHONE: 815.385.1778  
FAX: 713.965.0044

KANE AVE. WATERMAIN REPLACEMENT  
CLIENT: CITY OF MCHENRY  
MCHENRY, ILLINOIS

FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
COVER SHEET



SEAL  
*Andy Lemke*  
ANDY K. LEMKE, P.E.  
EXPIRES: NOVEMBER 30, 2025



1391 CORPORATE DRIVE, SUITE 203 | McHENRY, IL 60050  
Phone: 815.385.1778 | Toll Free: 800.728.7805 | Fax: 713.965.0044 | HRGreen.com

FOR BIDDING  
NOT FOR CONSTRUCTION

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0" = 1"

IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING  
**C-01**

11/19/2024 12:18:21 PM \\hrgreen.com\HRG\Drawings\2024\2402108\CAD\Drawings\C\2402108-Cover.dwg

SUMMARY OF QUANTITIES

Item	Description	Unit	Quantity
1	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	5
2	DEWATERING	L SUM	1
3	CLEARING & GRUBBING	SQ YD	40
4	FURNISH AND PLACING TOPSOIL, 4"	SQ YD	280
5	SEEDING, CLASS 1	ACRE	0.06
6	NITROGEN FERTILIZER NUTRIENT	POUND	6
7	POTASSIUM FERTILIZER NUTRIENT	POUND	6
8	EROSION CONTROL BLANKET (EXCELSIOR)	SQ YD	280
9	PERIMETER EROSION BARRIER	FOOT	100
10	WATER MAIN, 8", PVC (C-900)	FOOT	37
11	WATER MAIN, 12", PVC (C-900)	FOOT	83
12	WATER MAIN, 12", PVC (C-900) (TRENCHLESS)	FOOT	105
13	24" STEEL CASING WITH SPACERS	FOOT	103
14	PRESSURE VALVE INSERT, 6 INCH	EACH	1
15	VALVE VAULTS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
16	CONNECTION TO EXISTING WATER MAIN 12"	EACH	2
17	DUCTILE IRON SLEEVE, 12"	EACH	2
18	CUT AND CAP EXISTING 6" WATER MAIN	EACH	2
19	CUT AND CAP EXISTING 12" WATER MAIN	EACH	2
20	WATER MAIN TO BE ABANDONED, 6"	FOOT	62
21	WATER MAIN TO BE ABANDONED, 12"	FOOT	130
22	EXIST VALVE IN VAULT TO BE ABANDONED	EACH	1
23	VALVE VAULTS TO BE ABANDONED	EACH	1
24	EXPLORATION TRENCH (SPECIAL)	FOOT	20
25	WOOD GUARDRAIL REMOVAL AND REINSTALLATION	FOOT	10
26	PRECONSTRUCTION VIDEO TAPING	L.SUM	1
27	TRAFFIC CONTROL AND PROTECTION	L.SUM	1
28	MOBILIZATION	L SUM	1
29	CONSTRUCTION LAYOUT	L SUM	1
30	TRACK & GROUND MONITORING	L SUM	1
31	UNION PACIFIC'S RAILROAD FLAGGING	L SUM	1

**SYMBOL LEGEND**

	EXISTING	PROPOSED
SANITARY MANHOLE	●	●
STORM MANHOLE	○	○
STORM CATCH BASIN/INLET	○	○
INLET	○	○
FLARED END SECTION	◁	◁
VALVE VAULT	○	○
WATER SERVICE VALVE	○	○
WATER B-BOX	□	□
INDICATES WATER MAIN LINE STOP	■	■
INDICATES PRESSURE VALVE INSERT	■	■
CUT AND CAP	■	■
FIRE HYDRANT WITH AUXILIARY VALVE	⊥	⊥
LIGHT POLE	x	x
REGULATORY SIGN	⊥	⊥
UTILITY POLE	⊥	⊥
UTILITY BOX	⊥	⊥
MAILBOX	⊥	⊥
WELL	●	●
SANITARY SEWER	—	—
STORM SEWER	—	—
COMBINATION STORM AND SANITARY SEWER	—	—
CULVERT	—	—
PERFORATED UNDERDRAIN	—	—
WATER MAIN	—	—
WATER MAIN ENCASUREMENT	—	—
WATER MAIN TUNNELING	—	—
TRENCH BACKFILL	—	—
SANITARY FORCE MAIN	—	—
ELECTRIC LINE	—	—
OVERHEAD ELECTRIC LINE	—	—
UNDERGROUND ELECTRIC	—	—
TELEPHONE LINE	—	—
GAS LINE	—	—
CABLE TV LINE	—	—
FIBER OPTIC LINE	—	—
RAILROAD TRACKS	—	—
TREE LINE	—	—
TREE	—	—
CONTOURS	—	—
SPOT ELEVATION	—	—
FENCE	—	—
WETLAND	—	—
MARSH / WETLAND	—	—
RIPRAP	—	—
DRAINAGE DIRECTION ARROW	—	—
DRAINAGE OVERFLOW DIRECTION	—	—

**STANDARD ABBREVIATIONS**

B-B - BACK TO BACK OF CURB	L.E. - LANDSCAPE EASEMENT
B.C. - BACK OF CURB	M.H. - MANHOLE (TYPE SPECIFIED ON PLANS)
B.O.C. - BACK OF CURB	R.C.M.E. - ROAD CONSTRUCTION & MAINTENANCE EASEMENT
B.S.L. - BUILDING SETBACK LINE	R.O.W. - RIGHT OF WAY
C.B. - STORM CATCH BASIN	T.B.F. - TRENCH BACKFILL
C.E. - COMMONWEALTH EDISON CO.	T.C. - TOP OF CURB
D.E. - DRAINAGE EASEMENT	T.C.E. - TEMPORARY CONSTRUCTION EASEMENT
E-E - EDGE TO EDGE OF PAVEMENT	T.O.B. - TOP OF BERM
E.O.P. - EDGE OF PAVEMENT	T.O.C. - TOP OF CURB
E.O.S. - EDGE OF SHOULDER	U.E. - UTILITY EASEMENT
E.P. - EDGE OF PAVEMENT	
E.S. - EDGE OF SHOULDER	
F.E.S. - FLARED END SECTION	
I.B.T. - ILLINOIS BELL TELEPHONE CO.	

**PROJECT LEGEND:**

- INDICATES PAVEMENT REMOVAL (FULL DEPTH)
- CLEARING AND GRUBBING
- INDICATES TREE OR SHRUB REMOVAL
- INDICATES TREE PROTECTION
- INDICATES PIPE REMOVAL OR ABANDONMENT
  - STORM SEWER
  - WATER MAIN
  - SANITARY
- INDICATES CURB REMOVAL
- INDICATES SAWCUT
- INDICATES EROSION CONTROL MEASURES SEE SHEET C-06-C-08 FOR INFO.
- INDICATES SILT FILTER FENCE (LIMITS OF GRADING)
- INDICATES INLET PROTECTION
- INDICATES TEMPORARY DITCH CHECKS
- DESIGNATES AREA TO BE SEEDED (SEE LANDSCAPE PLANS)
- DESIGNATES AREA TO BE SEEDED AND TO UTILIZE EXCELSIOR BLANKET (SEE DETAILS)
- DESIGNATES PROPOSED RIPRAP AREA (SEE DETAILS) (QUANTITY AS INDICATED)
- DESIGNATES TEMPORARY CONSTRUCTION ACCESS
- DENOTES CASING PIPE
- DENOTES TUNNELING REQUIRED
- DENOTES TRENCH BACKFILL
- DENOTES MAINTAIN 18" VERTICAL SEPARATION PER TO I.E.PA'S REQUIREMENTS
- DENOTES STORM SEWER TAG (SEE PLANS FOR INFORMATION)
- DENOTES SANITARY SEWER TAG (SEE PLANS FOR INFORMATION)
- DENOTES WATER MAIN TAG (SEE PLANS FOR INFORMATION)
- DENOTES UTILITY /CONFLICT RESOLUTION TAG (SEE PLANS FOR INFORMATION)

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE DRIVE, SUITE 203  
MCHENRY, IL 60050  
PHONE: 815.385.1778  
FAX: 713.965.0044

KANE AVE. WATERMAIN REPLACEMENT  
CLIENT: CITY OF MCHENRY  
MCHENRY, ILLINOIS

FINAL - FOR BIDDING - NOT FOR CONSTRUCTION

**SUMMARY OF QUANTITIES AND SYMBOL LEGEND**

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0" 1"  
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING  
C-02

GENERAL NOTES & SPECIFICATIONS

SPECIFICATIONS, STANDARDS AND SPECIAL PROVISIONS

All construction shall be done in accordance with the latest edition in effect on the date of invitation for bids, of the following:

- A. The City of McHenry "Standards and Specifications for Public and Subdivision Control and Development Ordinance."
B. City of McHenry Technical Specifications Manual;
C. "Standard Specifications for Road and Bridge Construction" prepared by the Department of Transportation of the State of Illinois and adopted by said department, hereinafter referred to as the "Standard Specifications"; (latest revision).
D. "Supplemental Specifications and Recurring Special Provisions" adopted by the Illinois Department of Transportation (latest revision).
E. "Standards and Specifications for Soil Erosion and Sediment Control" (latest revision).
F. "Standard Specifications for Water and Sewer Main Construction in Illinois" (latest revision).
G. "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways.
H. "Standard Specifications for Traffic Control Items" by Illinois Department of Transportation.
I. "Design Manual" by Illinois Department of Transportation.
J. "Title 35" by Illinois Environmental Protection Agency (IEPA).
K. "Illinois Urban Manual" prepared by the U.S. Department of Agriculture (latest edition).

In addition the following special provisions supplement the said specifications, and in case of conflict with any part or parts of said specifications, these special provisions shall take precedence and shall govern.

Pavement Construction

- 1. All pavements shall be constructed in accordance with Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, latest edition, except as provided herein.
2. Not less than one modified proctor density test performed in accordance with AASHTO T99, shall be taken on each type of material used for embankment or encountered in the subgrade.
3. Density tests on embankment and subgrade materials shall be performed by a qualified and approved soils engineer in accordance with AASHTO T191 or by other methods approved by the Director of Public Works.
4. Upon completion of the compaction of the embankment and subgrade a roll test with a fully loaded single rear axle six wheel truck shall be done at the direction of the City Engineering Inspector or his representative prior to placing any type of curb and gutter or base material.
5. Density Tests on base course and surface course materials shall be performed by a qualified and approved soils and materials engineer by methods approved by the Director of Public Works.
6. Bituminous Concrete Surface Course, Hot-Mix Asphalt shall be constructed upon approval of the binder course by the Director of Public Works or his representative.
7. Bituminous Concrete Binder Course, Hot-Mix Asphalt shall be constructed upon approval of the aggregate sub-base by the Director of Public Works or his representative.
8. Bituminous Concrete Level Binder Course, Hot-Mix Asphalt shall be constructed upon approval of the Director of Public Works or his representative.
9. Pavements constructed with bituminous concrete must be paved full width in one pass or full width two passes. Paving full width in three passes will not be permitted.
10. The aggregate base course or granular sub-base for any street shall be 100% crushed stone or 100% crushed gravel and shall be extended 1-foot beyond each side of the concrete or bituminous pavement material placed over it.
11. Borrow pits shall be in accordance with the applicable section of the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction in Illinois, Latest Edition.
12. A specific Hot-Mix Asphalt type designation shall be determined at the time of the plan review for final engineering.
13. RAP material will not be allowed in bituminous final surface mixes unless approved by the Director of Public Works.
14. All materials shall meet the requirements of the Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation latest edition.

Curb and Gutter

- 1. Intersection sidewalk crossings shall be ramped for the handicapped and meet all ADA requirements.
2. Expansion joints shall be doweled and spaced at no more than 60 feet on center and at tangent points of all radii. Expansion joints are also required 5-feet either side of curb inlet structures. Control joints shall be provided and spaced at no more than 15 feet on center and shall consist of a saw cut minimum of 1-1/2" deep. Two (2) bars will be required at each joint.
3. A minimum of four inches of sub-base granular 100% crushed gravel or 100% crushed stone shall be used under the curb and gutter and extend a minimum of 12" beyond the back of curb.

- 4. Flyash is not allowed in any concrete mixture.
5. At a normal residential intersection the entire corner radius will be depressed for the sidewalk ramp.
6. A concrete Mix design must be submitted to the City for review at least 30 days prior to its use.

Sidewalk Construction

- 1. Sidewalks shall conform to the requirements of Article 624, Portland Cement Concrete Sidewalk, Standard Specifications for Road and Bridge Construction, Illinois Department of Transportation, latest edition, except as provided herein, and the City's Development Standards.
2. Control joints shall be placed at four-foot spacing for residential developments and at five-foot spacing for commercial development and 1/2 inch expansion joints shall be provided at 50-foot spacings.
3. Intersection sidewalk crossings shall be ramped for the handicapped and meet all ADA requirements.
4. Flyash is not allowed in any concrete mixture.
5. At normal residential intersection the entire corner radius will be depressed for the sidewalk ramp.
6. A concrete mix design must be submitted to the City for review at least 30 days prior to its use.
7. Sidewalks shall conform to the requirements of article 624, Portland cement concrete sidewalk, standard specifications for road and bridge construction, Illinois department of transportation, latest edition, except as provided herein, and the city's development standards.

Parkway Tree Planting

- 1. Parkway trees shall be planted in accordance with the requirements of the American Standards for Nursery Stock, current edition. A minimum two-foot diameter mulched area shall be provided around the base of all parkway trees. Trees shall be watered for a minimum of two (2) weeks or until sufficiently established.

Pavement Markings

- 1. All pavement marking will be thermoplastic in accordance with the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction" latest edition. Point is not permitted within the City Limits. In cases where Thermoplastic Pavement Markings cannot be placed due to pavement temperatures below 55 degrees, temporary point pavement markings are required.

Water Distribution System

- 1. All water mains shall be constructed at a depth of six (6) feet from final grade to the top of the water main unless otherwise approved by the Director of Public Works.
2. All products MUST be American Made.
3. Separation and protection of water mains from sewers shall comply with the Standard Specifications for Water and Sewer Main Construction in Illinois, Latest Edition.
4. Pipe Material Requirements

- A. Ductile Iron pipe complying with AWWA C151.
- Polyethylene wrapping of Ductile Iron pipe and Appurtenance complying with requirements of AWWA C105.
- Pipe shall have a minimum thickness Class 52 conforming to AWWA C150.
- All pipes shall have a minimum laying length of eighteen (18) feet.
- Pipe joints shall be push-on joints or mechanical joints conforming to AWWA C111.
- All pipes shall be cement-mortar lined in accordance with AWWA C104.
- Brass wedges are required at all joints when using ductile iron pipe to aid in locating.
B. PVC plastic pipe complying with ASTM D1784 (preferred material).

- Class 12454 A or B polyvinyl chloride.
- Twelve (12) inch pipe and smaller must comply with AWWA C-900 for Class 150-pressure pipe with a standard dimension ratio of 18.
- Watermain Locator. A trace wire system conforming to Trace-Safe Water Blocking Tracer Wire System must be used with PVC installation.
- The trace wire shall be secured to the top of the PVC plastic water mains and fittings.
- The locator wire shall be brought up inside the valve so no person shall have to enter the valve vault to attach the pipe locator.
- The locator wire shall continued through the valve vaults and it shall be brought up along side the auxiliary valve box to finish grade at each of the fire hydrants.
- The locator wire shall be brought up at all B-Box locations.
- Locator wire connections must be connected by wire connectors of the same Trace-Safe system. Alternate connectors must be approved by the City Engineer or Director of Public Works.

Water Main Main Fittings: (Included in pay item for Watermain, 8")

- Ductile iron fittings with mechanical joint complying with AWWA C110 or AWWA C153 and must be American made.
- Use cement lining complying with AWWA C104, standard thickness.
- Bolts, nuts and threaded rods: Use Corten bolts, nuts and threaded rods
- Provide restrained joint type fittings that are compatible with system utilized, as specified by the pipe manufacturer.
- Provide protection of movement of water main piping, plugs, caps, tees, valves, hydrants and bends of 1 1/4 degrees or greater using thrust blocks, retainer glands and threaded rod.
- Alternate-fitting materials may be allowed upon review and approval of the City Engineer and Director of Public Works.

- 5. Water Service Connections
A. Water service lines servicing single family residences shall be a minimum of one (1) inch diameter and shall have a minimum cover of six (6) feet and a maximum cover of eight (8) feet.
B. Curb stops and curb boxes shall be located in public right of way between the right of way line and either the back of the curb, or the top of the roadway ditch

closest to the right of way line which ever applies. They shall be a minimum of two (2) feet in front of the sidewalk. Such curb stops and boxes shall not be located in any paved areas. The "asbuilt" locations of all curb boxes (B-boxes) shall be shown on the "Record Drawings" for the subdivision or development.

- C. All water service lines two (2) inches in diameter or smaller shall be constructed of Type K copper with flared or compression fittings. Service lines larger than two (2) inches shall be ductile iron conforming to allowable water main material specifications.
D. Service connection to the water main for services two (2) inches in diameter or smaller shall be with a Smith-Blair #317 Epoxy Coated Double Stainless Steel Straps and a corporation stop Mueller H-15000, H-15008, H-15013 or approved equal.
E. Each service less than two (2) inches in diameter shall have a curb stop Mueller H-15154 or H-15013 and a curb box Mueller H-10300 or approved equals.
F. All water service installations MUST be witnessed by the City Plumbing inspector. This includes all connections to the main line and reconnections to existing service lines. All shut-offs and B-Boxes must be inspected as well. A minimum of 48 hour notice must be given for all inspections.

Fire Hydrants

- A. Fire hydrants shall have a minimum of one (1) cubic yard of one-quarter (1/4) to three quarters (3/4) inch of washed river stone placed at the base of the hydrant to provide drainage at the barrel.
B. The breakaway flange, which is critical, shall be set at ground elevation. Hydrants in street rights of way shall be placed three (3) feet from back of curb.
C. Hydrants shall be dry barrel type and shall conform to AWWA C-502.
D. All fire hydrants shall be Mueller Super Centurion #250 with traffic flange A423 or Clow Medallion. Hydrants shall include a Mechanical Joint with a 5 1/4 inch minimum size main valve assembly, O-ring seals, two 2 1/2 inch hose nozzles, and a 4 1/2 inch pumper nozzle with National Standards threads, a National Standard operating nut, and an above ground break flange.

- E. Hydrants shall be provided with fire hydrant auxiliary valves that are 6 inch resilient wedge type gate valve and bituminous coated metal threaded tie rods between the hydrant, valve and the tee fitting with a Tyler valve box No. 664S and the cover marked with the word "Water".
F. Provide valve box stabilizers on all fire hydrant auxiliary valves. Acceptable manufacturers include Alberico, Adaptor, Inc., American Flow Control, or equal.

- G. Hydrants shall be "factory" painted red or as otherwise directed by the Director of Public Works. The Contractor is responsible for touch-up painting of hydrants, prior to acceptance by the City, with factory approved touch-up paint.
H. All fire hydrants shall be marked with an "x" on the Northwestern most flange bolt and the elevation recorded on the record drawing for the project.

Valves and Vaults.

- A. Valves twelve (12) inches and smaller shall be iron or ductile iron body, non-rising stem gate valves modified wedge disc, resilient wedge type conforming to AWWA C-509.
B. Valves larger than twelve (12) inches shall be ductile-iron body, rubber sealed, tight closure butterfly valves conforming to AWWA C-504.
C. Valve vaults shall consist of precast reinforced concrete sections meeting ASTM C-478 and ASTM C-443 standards.
D. Adjusting rings shall be precast concrete rings maximum of eight (8) inches.

- E. Vault steps shall have a minimum width of 12 inches and a minimum projection of 5 inches.
F. Joints for precast sections: Provide joints of either flexible watertight rubber gaskets or preformed bituminous plastic gaskets consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compound reinforced with inert mineral filler.

- K.T. Snyder Co., RAM-NEK
- Concrete Sealants, Type CS-208, or equal.
G. Flexible pipe connectors: Provide flexible rubber gasket collar for connecting pipe to the manhole.
- For pipe 24-inch and smaller, use PSX gasket system by Press-Seal Gasket Corporation, or equal.
- For pipe 27-inch and larger, use resilient gasket by ALOK Products, Inc., or equal.

- H. Frame and grates for valve vaults shall be East Jordan Heavy Duty 1050 Frame with an EJ 1022 cover or approved equal, embossed "McHenry Water" with the "Fox Logo" and have two (2) recessed closed pick-holes. See Details in plan set.

Tapping Sleeves

- A. Use two-piece bolted sleeve ductile iron or stainless steel type with mechanical joints.
B. Provide joint accessories
C. Measure existing water main outside diameter to determine proper tapping sleeve size.
D. Acceptable manufacturers:
- Ductile iron: Clow F-5205, or equal.
- Stainless steel: Smith Blair 662, (American Made, only) or equal

Tapping Valves

- A. Use fully ported gate valves complying with AWWA C500
B. Use mechanical joint type, Clow F-5093, or equal.

Construction Requirements

- A. Water mains and all appurtenances shall be installed in conformance with AWWA C-600, the material manufacturer's recommendations, and the standard specifications for Water and Sewer Main Construction in Illinois and these Specifications.
B. Granular backfill shall be required in all locations where the water main trench is under or within two (2) feet of existing or proposed pavements including but not limited to streets, sidewalks or driveways.
C. Provide CA-11 washed stone for pipe bedding with a minimum thickness of 4 inches under pipe barrels and 2 inches under bells.
D. Wherever the trench is over excavated refill the trench bottom to the required pipeline grade with granular material conforming to the IDOT "Standard Specifications" gradation No. CA-11 washed stone or as directed by the City representative.
E. Following placement of pipe and inspection of joints, provide CA-11 washed stone and covering material for the full width of the trench to twelve (12) inches above the top of the pipe or as directed by the City representative.
F. All connections to the existing water system shall be made under full water service pressure unless otherwise approved by the Director of Public Works

Testing

- A. All water mains and service lines up to the b-boxes shall be tested as described in this section which is superseded by any I.E.P.A. permit conditions.
B. All pipes shall be subjected to a hydrostatic pressure of not less than one hundred fifty (150) pounds per square inch.
C. A metered leakage test shall be conducted after the pressure test has been satisfactorily completed.
D. Should any test of pipe disclose leakage greater than the maximum allowable amount, the defective joint or joints shall be located and repaired and the 24 hour metered leakage test repeated until the leakage is within the specified allowance.

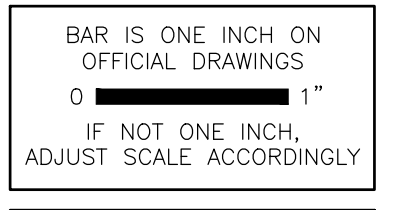
Disinfection

- A. Prior to chlorination, the main shall be flushed as thoroughly as possible with the water pressure and outlets available.
B. The preferred point of application of the chlorinating agent shall be at the beginning of the pipe line extension of any valved section of it and through a corporation stop in the top of the newly laid pipe.
C. After all mains have been satisfactorily tested, the contractor shall disinfect the main in accordance with AWWA Standard C-651.
D. After the disinfection period, the water shall be flushed from the main until the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the system or less than one (1) mg/L.
E. Piping, valves, pressure connection valves, tapping sleeves and fittings that must be placed in service immediately and cannot be disinfected by the above specified methods shall be flushed and swabbed with a five (5) percent solution of calcium hypochlorite prior to assembly.

Table with columns: NO., DATE, BY, REVISION DESCRIPTION

ILLINOIS DESIGN FIRM # 184.001322 1391 CORPORATE DRIVE, SUITE 203 MCHENRY, IL 60050 PHONE: 815.365.1778 FAX: 713.965.0044 HRGreen logo

KANE AVE. WATERMAIN REPLACEMENT CLIENT: CITY OF MCHENRY MCHENRY, ILLINOIS FINAL - FOR BIDDING - NOT FOR CONSTRUCTION SPECIFICATIONS, GENERAL NOTES



DRAWN BY: MPL APPROVED: AKL JOB DATE: 11/20/2024 JOB NO: 2402108

DRAWING C-03

\\hrgreen.com\HRG\Data\2024\2402108\CAD\DWGs\C-2402108-Cover.dwg 11/19/2024 12:18:21 PM

GENERAL NOTES & SPECIFICATIONS

Storm Sewer System

- 1. Storm sewers shall be laid straight in both horizontal and vertical planes between structures unless otherwise approved by the Director of Public Works.
2. Material Requirements
A. Storm sewers shall be reinforced concrete pipe conforming to ASTM C76 standards for round pipe or ASTM C507 for elliptical pipe.
B. Pipe joints shall be 'O' ring joints conforming to ASTM C443.
C. Manholes, catch basins and inlets shall be precast reinforced concrete conforming to ASTM C478.
D. Joints between manhole, catch basin, and inlet sections shall be filled with preformed bitumastic joint filler of sufficient size to completely seal.
E. Adjusting rings shall be precast concrete rings.
F. Castings.
a. Inlet and catch basin frames and grates in paved areas shall be Neenah R-3281-A, or approved equal.
b. Inlet and catch basin frames and grates in grassed areas shall be Neenah R-4340-B, or approved equal.
c. Manhole frames and grates shall be Neenah R-1712 or approved equal, embossed "City of McHenry Storm Sewer".
d. Steps shall be Neenah R-1981-I or approved equal.
G. Bedding and select granular backfill for storm sewers shall conform to the "Standard Specifications for Road and Bridge Construction", Illinois Department of Transportation, latest edition, and shall conform to gradation CA-6 washed stone.
3. Construction Requirements
A. Storm sewers shall be constructed in accordance with the "Standard Specifications for Road and Bridge Construction" Illinois Department of Transportation, Standard Specifications for Water and Sewer Main Construction in Illinois, the pipe manufacturer's recommendations, and these Development Standards.
B. Trenches for storm sewers located under or within two (2) feet of a paved area shall be backfilled with select granular conforming to gradation FA-6 or sand and compacted by mechanical means to ninety-five (95) percent standard laboratory density.
C. Adjusting rings for manholes, catch basins, and inlets shall be limited to a maximum of three (3) rings and maximum height of eight (8) inches.
D. When adjusting rings are required on structures a cement mortar or bituminous material coating shall be applied to the outside of the rings.
E. Lifting holes in structure sections and sewer pipe shall be plugged with appropriate sized concrete lift plugs and coated with bituminous material.
4. Inspection and Testing
A. All sewers and appurtenances shall be cleaned prior to inspection and testing. Upon completion of construction and prior to acceptance of the storm sewer and again prior to expiration of the maintenance guarantee, the storm sewers shall be inspected through the use of standard T.V. equipment for final approval

Miscellaneous Notes

- 1. The Contractor shall notify the City of McHenry and the residents within the project limits a minimum of 48 hours prior to the start of construction.
During construction, the contractor shall provide access to all abutting properties, except for periods of short duration as approved by the Owner.
All Work performed relative to this improvement shall comply with all applicable rules and regulations of O.S.H.A.
All construction personnel will be required to wear a safety vest, complying with the latest O.S.H.A. requirements, at all times while at the construction site.
All trenches shall be backfilled or covered at the end of each day of construction.
The Contractor shall remove all mailboxes within the Limits of Construction which interfere with construction operations and erect them at temporary locations as approved by the Owner.
2. Easements for the existing utilities, both public and private, and utilities within public rights-of-way are shown on the plans according to available records.

- 3. Contractor shall be responsible for securing all Permits including municipal permits.
4. Construction Observation: All improvements shall be subject to inspection by a duly authorized and qualified City inspector both during the course of construction and after construction is complete.
A. To visit the construction site in order to better carry out the duties and responsibilities assigned by the City and undertaken by the Inspector;
B. The Inspector shall not, during such visits or as a result of such observations of the Contractor's Work in progress, supervise, direct, nor shall the inspector have the authority over the responsibility for the means, methods, techniques, sequences, or procedures of construction selected by the Contractor, for safety precautions and programs incidental to the Work of the Contractor, or for any failure of the Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to the Contractor furnishing and performing his Work.
5. Excavation: Where Working conditions and right-of-way permit, pipe line trenches with sloping sides may be used.
The slopes shall not extend below the top of the pipe, and trench excavations below this point shall be made with vertical sides with widths not exceeding those specified herein for the various sizes of pipe.
Open-cut trenches shall be sheeted and braced as required by the governing State and Federal laws and Municipal ordinances, and as may be necessary to protect life, property, or the Work.
Where firm foundation is not encountered at the grade established due to unsuitable soil, all such unsuitable material shall be removed and replaced with approved compacted granular material.
6. Utilities: The Contractor shall notify all utilities prior to the installation of any pipe lines.
7. Protection of water main and water service lines: Water mains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, house sewer service connections and drains as follows;
A. Water Service Lines
a. Horizontal Separation
Water mains shall be laid at least 10' horizontally from any existing or proposed drain, storm sewer, sanitary sewer, combined sewer or sewer service connection.
Water mains may be laid closer than 10' to a sewer line when:
(1) Local conditions prevent a lateral separation of 10';
(2) The water main invert is at least 18" above the crown of the sewer; and
(3) The water main is either in a separate trench or in the same trench on an undisturbed earth shell located to one side of the sewer with a minimum vertical separation of 18".
b. Vertical Separation
A water main shall be laid so that its invert is 18" above the crown of the drain or sewer whenever water mains cross storm sewers, sanitary sewers or sewer service connections.
Both the water main and sewer shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, or PVC pipe meeting the requirements of Section 653.111 when it is impossible to meet (a) or (b) above.
A vertical separation of 18" between the invert of the sewer or drain and the crown of the water main shall be maintained where a water main crosses under a sewer.
Construction shall extend on each side of the crossing until the normal distance from the water main to the sewer or drain line is at least 10'.
B. Special Conditions. Alternate solutions shall be presented to the Agency when extreme topographical, geological or existing structural conditions make strict compliance with (A) and (B) above technically and economically impractical.
8. The Contractor may not remove any material from the site except as directed by the Owner or Engineer in the case of excess material.
9. Field Tile: The Engineer and City of McHenry Engineering Department shall be notified if, during construction, any buried field tiles are exposed or disturbed.
10. Topsoil Placement: Contractor shall respread all stripped or imported topsoil over all disturbed areas.
11. Seeding: All unpaved areas within the street right-of-way shall be seeded or sodded with a IDOT Class 1A mixture or with another mixture approved by the City Engineer.
12. The Contractor shall be responsible for the installation and maintenance of adequate

- signs, traffic control devices, and warning devices to inform and protect the public during all phases of construction.
13. Rubbish Removal: Contractor shall make site inspection prior to bidding and shall include in proposal removal of stumps, brush, branches, etc.
14. Water Use: Contractor shall supply any water required for construction.
15. The Contractor shall indemnify and hold harmless the City and City's Engineers and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from the performance of the Contractor's Work.
16. No construction plans shall be used for construction unless specifically marked "For Construction."
17. Restoration of Drainage: As soon as possible after backfilling the trench, all ditching, grading and shaping necessary to restore the original drainage in the area of Work shall be performed.
Adequate temporary drainage facilities meeting the approval of the Engineer shall be provided during construction.
18. Erosion Control: It shall be the Contractor's responsibility to properly control erosion on the jobsite.
The Contractor's responsibility for erosion control shall extend throughout the construction process.
All construction will adhere to the requirements set forth in the IEPA's General NPDES Permit for Stormwater Discharge from construction site activities.
Erosion control items must be inspected weekly and after every rain storm event of one-half inch of rainfall or greater.
19. Removal of Water: Contractors shall, at all times during construction, provide and maintain ample means and devices with which to remove and properly dispose of water entering the excavations.
The Contractor shall be responsible for complying with all Federal, State and Local regulatory requirements.
20. All curb & gutter crossings over trench locations shall be reinforced with 2-#4 rebar extended 2' beyond each side of trench
21. The Contractor shall purchase and maintain Comprehensive General Liability and other insurance as set forth in the "Supplementary Conditions" sections of the Bid Package, which will provide protection from claims which may arise out of or result from the performance of Work by anyone directly or indirectly employed by the Contractor, or by anyone for whose acts the Contractor may be liable.
22. If sanitary sewer services are found to be in conflict with proposed water main, sanitary sewer services shall be replaced with water main quality pipe.
23. Portable toilets shall be provided per art. 107.08. location(s) must be reviewed and approved by the resident engineer and or City.
24. Contractor to coordinate location and installation temp construction fence for delineation of safe access to the park playground equipment. contractor to coordinate with the resident engineer and or City.

Table with 4 columns: NO., DATE, BY, REVISION DESCRIPTION

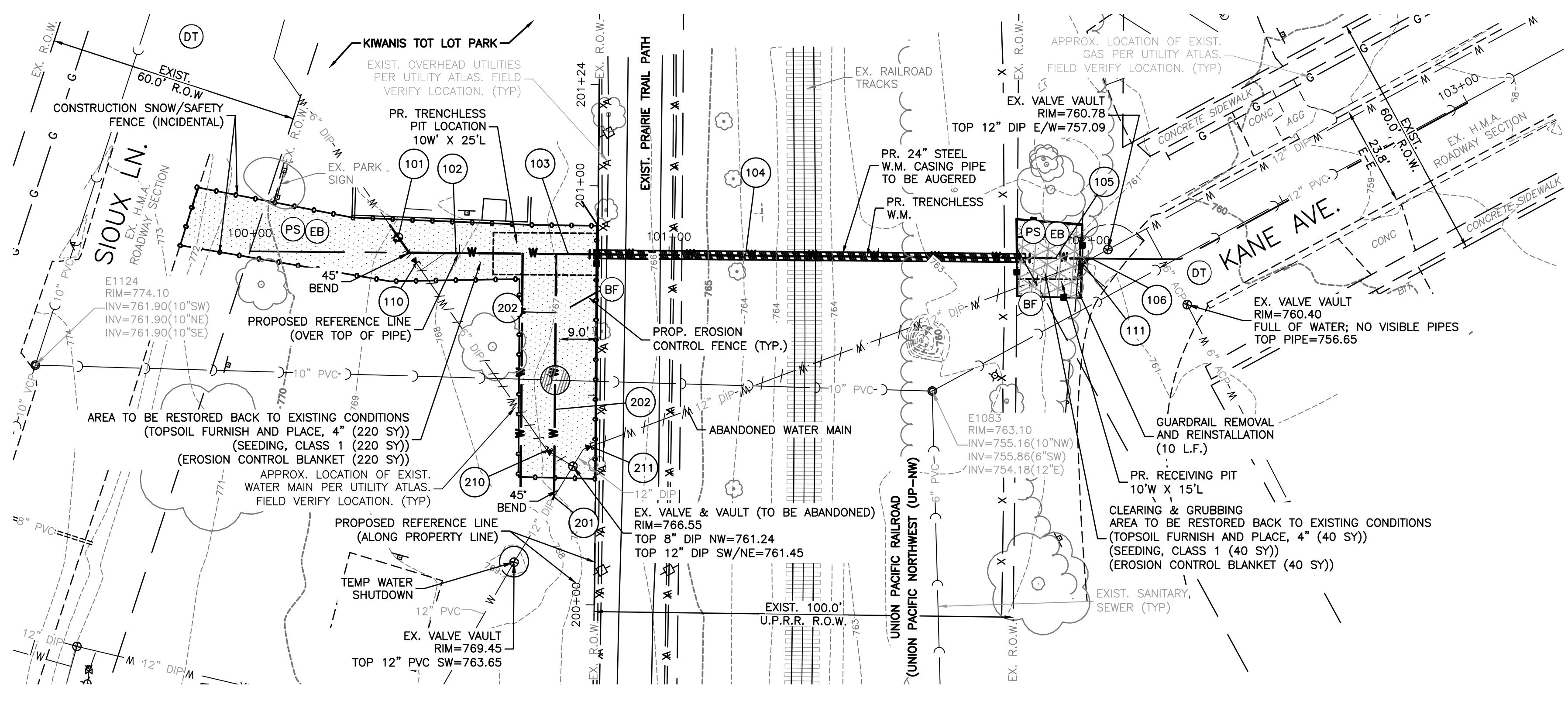
ILLINOIS DESIGN FIRM # 184.001322 1391 CORPORATE DRIVE, SUITE 203 MCHENRY, IL 60050 PHONE: 815.365.1778 FAX: 713.965.0044 HRGreen logo

KANE AVE. WATERMAIN REPLACEMENT CLIENT: CITY OF MCHENRY MCHENRY, ILLINOIS FINAL - FOR BIDDING - NOT FOR CONSTRUCTION SPECIFICATIONS, GENERAL NOTES

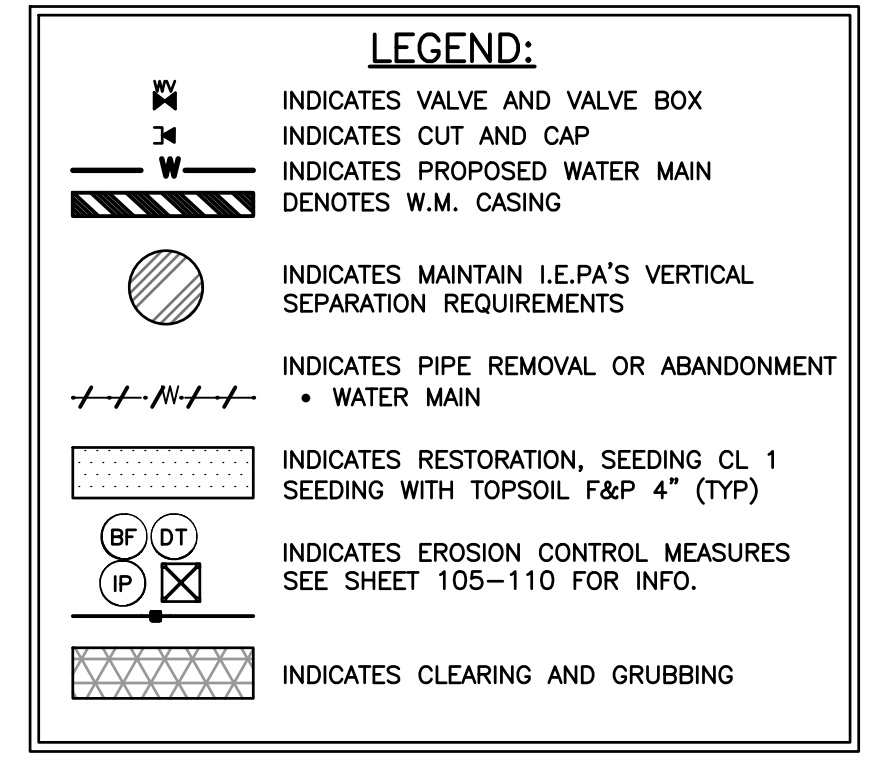
BAR IS ONE INCH ON OFFICIAL DRAWINGS 0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL APPROVED: AKL JOB DATE: 11/20/2024 JOB NO: 2402108

DRAWING C-04



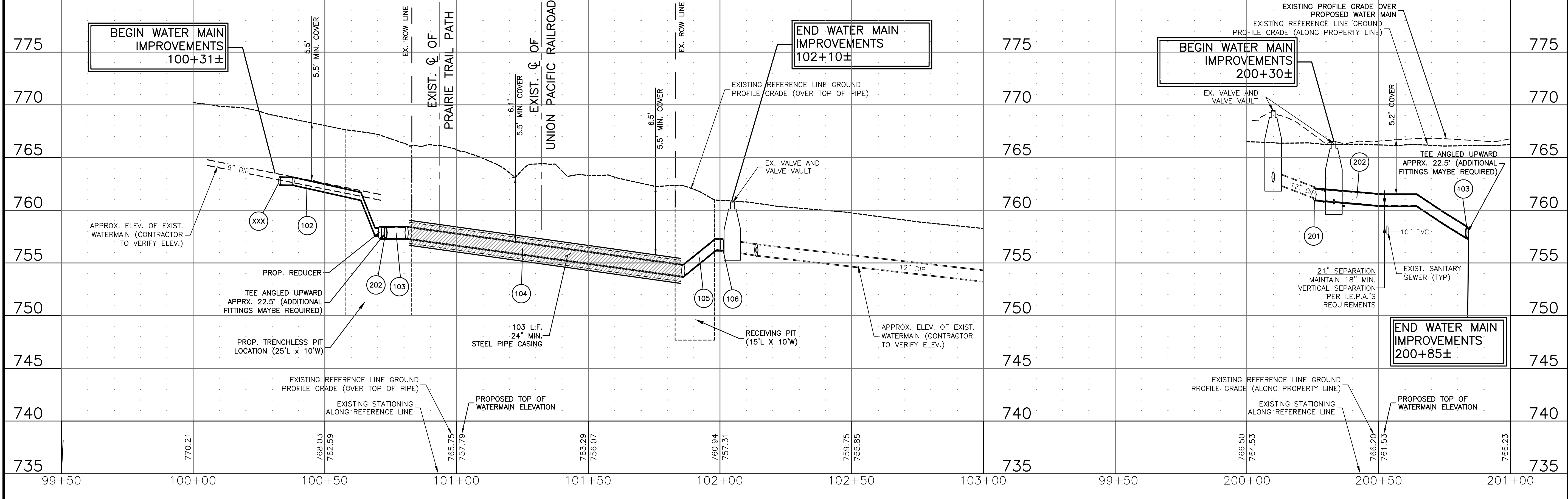
- ### # WATERMAIN TAGS
- 101 PRESS VALVE INSERT 6  
VV TA 4 DIA T1F CL  
RIM=768.85 (MATCH EXIST.)
  - 102 37' - WATER MAIN 8", PVC (C-900)  
WITH D.I, MJ, BENDS & REDUCERS
  - 103 10' - WATER MAIN 12", PVC (C-900)  
WITH D.I, MJ, BENDS, TEE'S & REDUCERS
  - 104 105' - WATER MAIN 12", PVC (C-900) (TRENCHLESS)
  - 105 15' - WATER MAIN 12", PVC (C-900)  
WITH D.I, MJ & BENDS
  - 106 CONN TO EX W MAIN 12  
DI SOLID SLEEVE 12
  - 110 CUT & CAP EX 6 WM  
WITH D.I. & MJ
  - 111 CUT & CAP EX 12 WM  
WITH D.I. & MJ
  - 201 CONN TO EX W MAIN 12  
DI SOLID SLEEVE 12
  - 202 58' - WATER MAIN 12", PVC (C-900)  
WITH D.I, MJ BENDS & TEE'S
  - 210 CUT & CAP EX 6 WM  
WITH D.I. & MJ
  - 211 CUT & CAP EX 12 WM  
WITH D.I. & MJ



NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE  
DRIVE, SUITE 203  
MCHENRY, IL 60050  
PHONE: 815.385.1778  
FAX: 713.965.0044

KANE AVE.



KANE AVE. WATERMAIN REPLACEMENT  
CLIENT: CITY OF MCHENRY  
MCHENRY, ILLINOIS  
FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
KANE AVE. - PLAN AND PROFILE

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0" 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING  
**C-05**

6/18/2024 2:14:04 PM \\hrgreen.com\HRG\Data\2024\2402108\CAD\Drawings\2402108-PnP-Kane\_Ave.dwg

\\hrgreen.com\HRG\Drawings\2024\2402108\CAD\DWG\2402108-Details.dwg 11/19/2024 2:47:08 PM Xref: sgt-1-d01

Table with columns: CONTROL MEASURE GROUP, CONTROL MEASURE, KEY, APPL., CONTROL MEASURE CHARACTERISTICS, TEMP., PERMIT. Rows include Vegetative Soil Cover, Non Vegetative Soil Cover, Diversions, Waterways, Enclosed Drainage, Spillways, Outlets, Sediment Basins, Sediment Filters, Mud and Dust Control, and Misc.

EROSION CONTROL NOTES: Land disturbing activities shall not commence until approval to do so has been received by governing authorities... The general contractor shall strictly adhere to the Storm Water Pollution Prevention Plan (SWPPP) during construction operations...

PHASING NOTES: SEQUENCE OF MAJOR ACTIVITIES The Contractor will be responsible for implementing the following erosion control and storm water management control measures... A. Secure storm water NPDES permit with the IEPA at least 30 days prior to beginning work...

FAILURE TO COMPLY: In the event a notice of violation is issued on this project, any and all fines will be the sole responsibility of the contractor... The contractor shall not participate in any payment or reimbursement for fines and will not authorize time extensions due to delays in project progress for work stoppage required to remedy the violations.

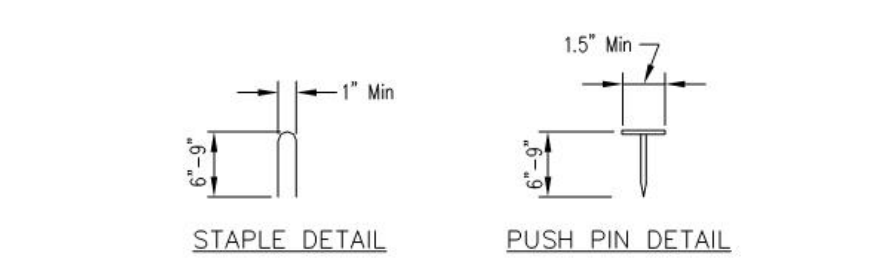
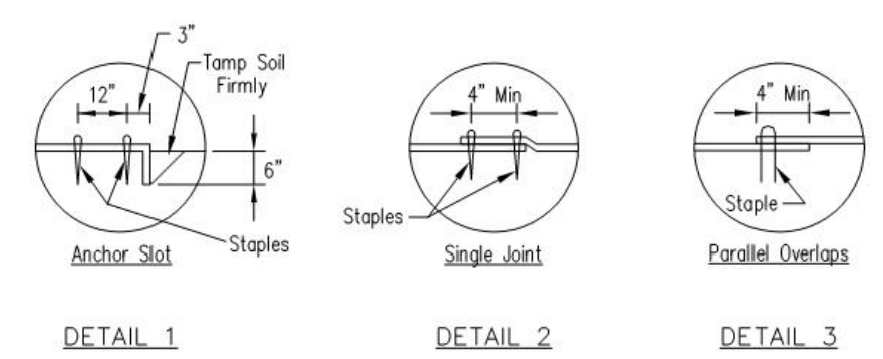
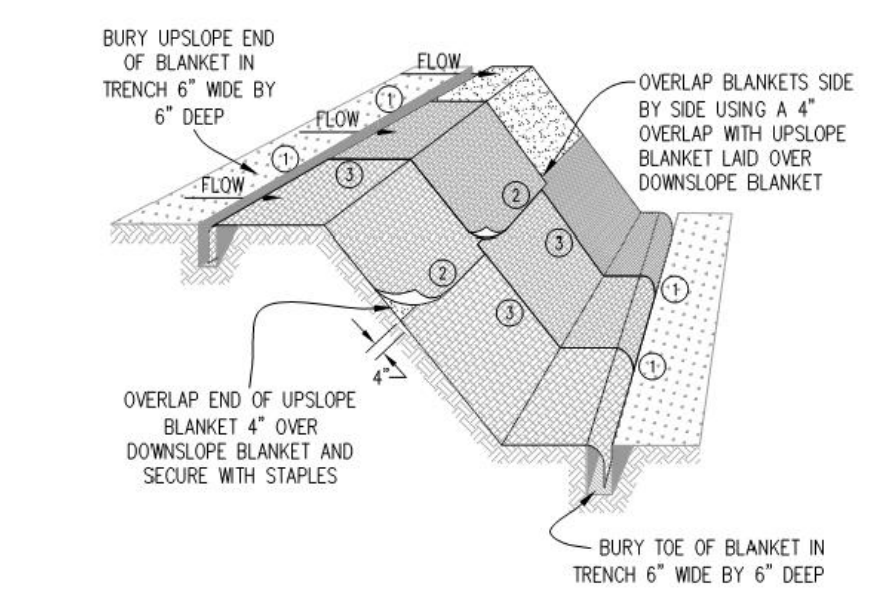
NOTES This plan has been prepared to comply with the provisions of the NPDES Permit Number issued by the Illinois Environmental Protection Agency for Stormwater Discharges from Construction Site Activities... 1. Site Description. a. The stormwater is tributary to the Fox River. The overall property area is tributary through City Storm Sewer...

3. Other Controls. (i) Waste Disposal. The solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed off-site by the contractor... (ii) The provisions of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations...

CONTRACTOR'S AND SUBCONTRACTOR'S CERTIFICATE I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (LR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

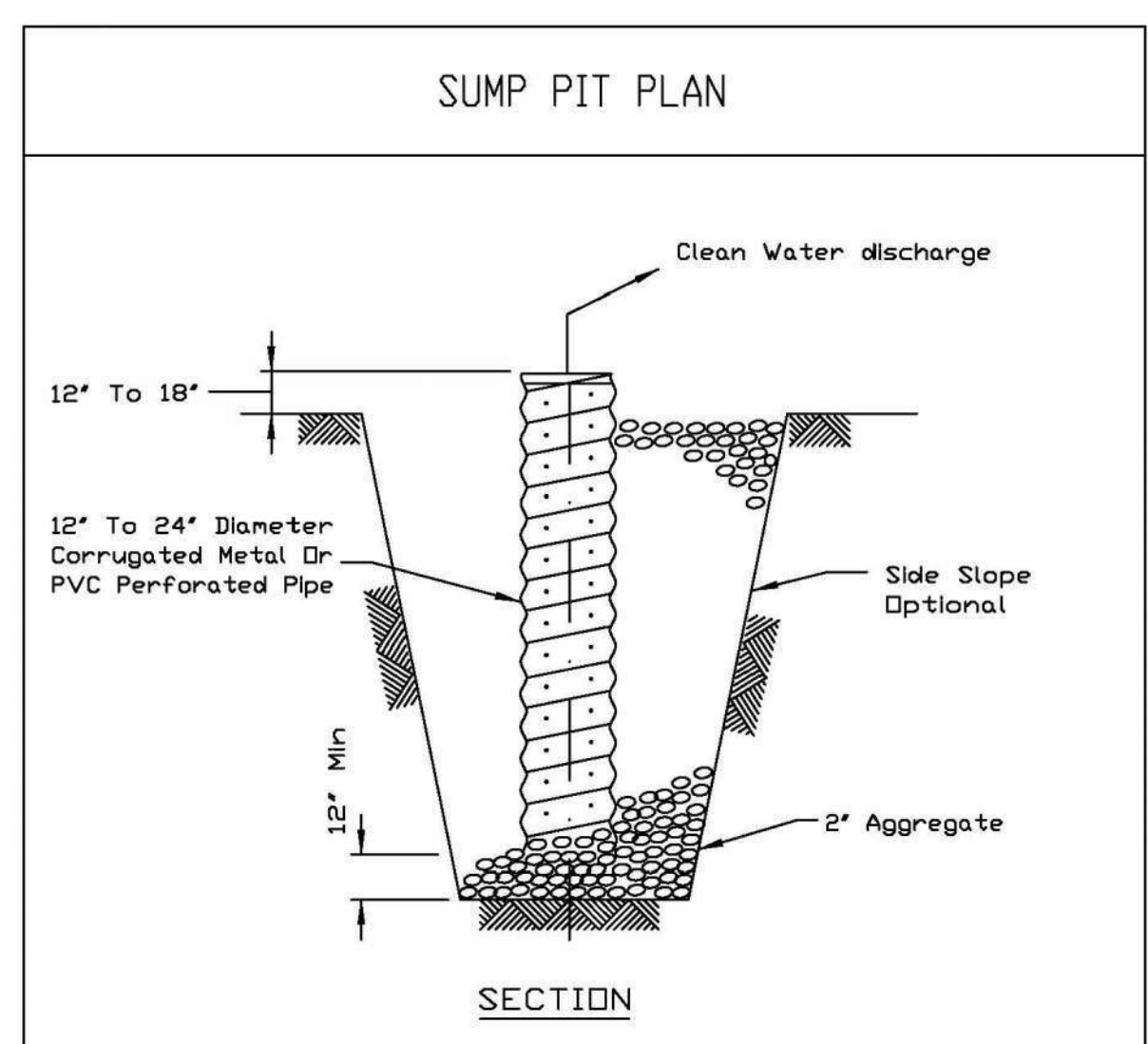
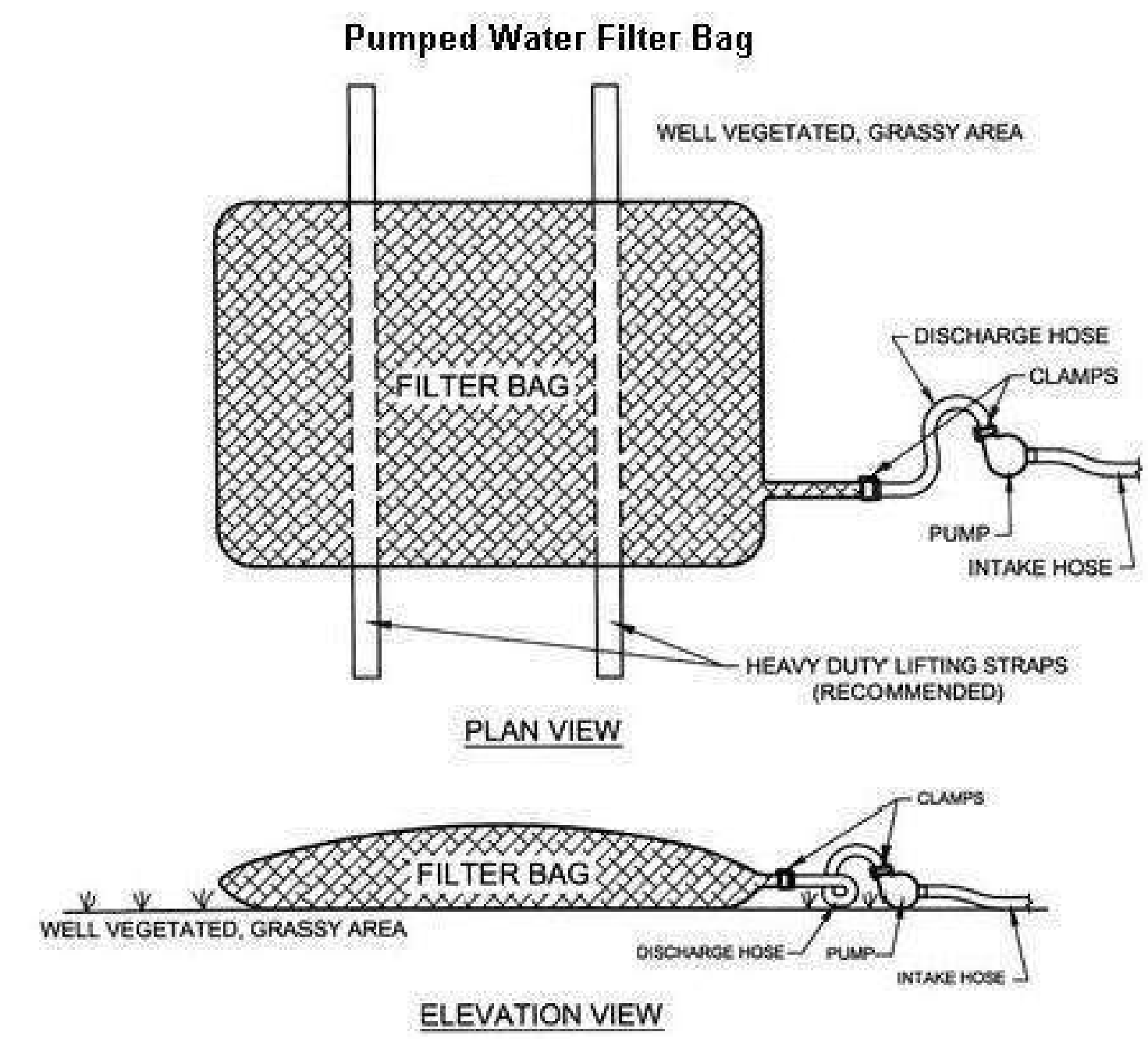
REVISION DESCRIPTION table, ILLINOIS DESIGN FIRM # 184-001322, HRGreen logo, KANE AVE. WATERMAIN REPLACEMENT CLIENT: CITY OF MCHENRY, MCHENRY, ILLINOIS FINAL - FOR BIDDING - NOT FOR CONSTRUCTION EROSION CONTROL SPECIFICATIONS BAR IS ONE INCH ON OFFICIAL DRAWINGS 0" = 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY DRAWN BY: MPL APPROVED: AKL JOB DATE: 11/20/2024 JOB NO: 2402108 DRAWING C-06





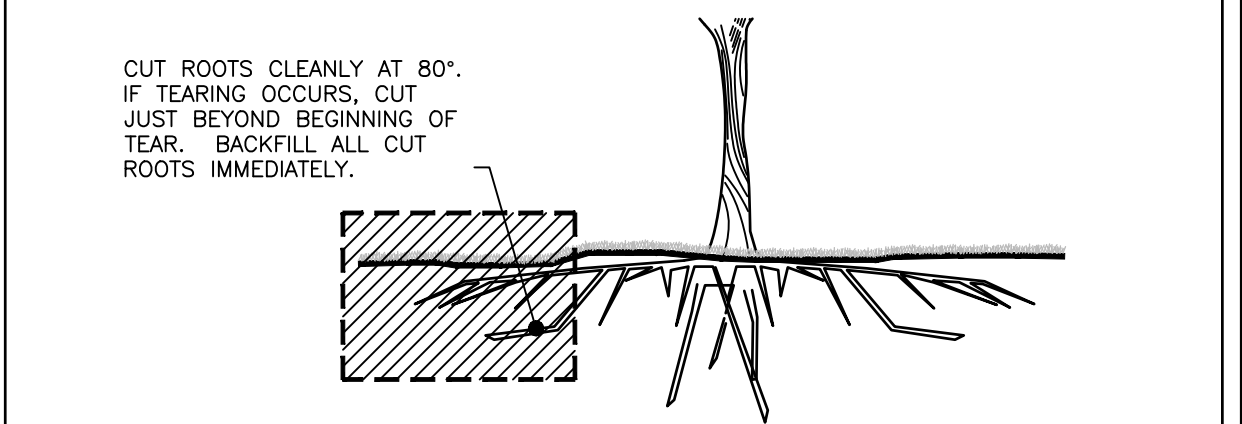
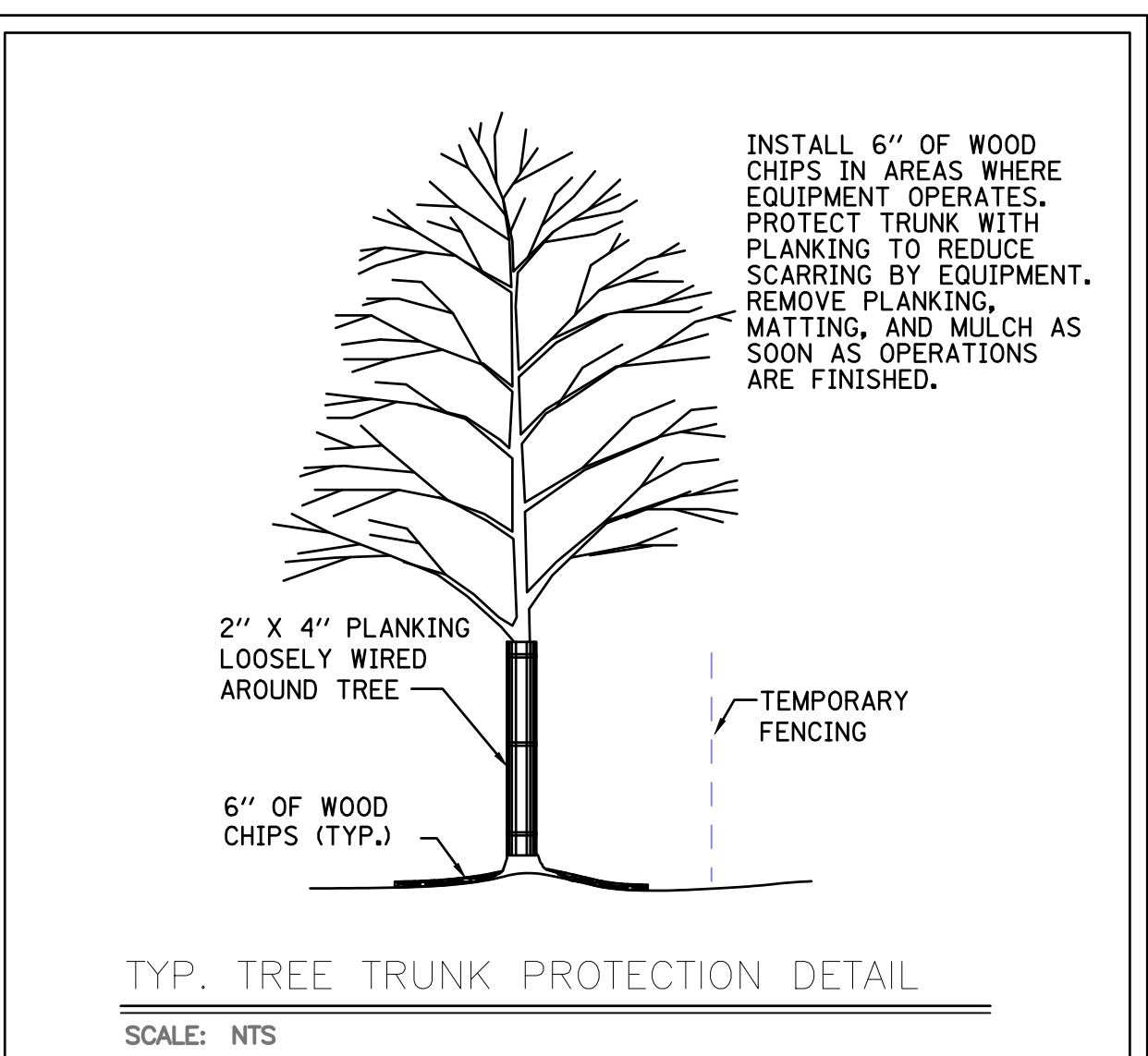
- NOTES:
1. Staples shall be placed in a diamond pattern at 2 per s.y. for stitched blankets. Non-stitched shall use 4 staples per s.y. of material. This equates to 200 staples with stitched blanket and 400 staples with non-stitched blanket per 100 s.y. of material.
  2. Staple or push pin lengths shall be selected based on soil type and conditions. (minimum staple length is 6")
  3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
  4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL BLANKET INSTALLATION DETAILS



- NOTES:
1. Pit dimensions are optional.
  2. The standpipe will be constructed by perforating a 12"-24" diameter corrugated metal or PVC pipe.
  3. A base of 2" aggregate will be placed in the pit to a minimum depth of 12". After installing the standpipe, the pit surrounding the standpipe will then be backfilled with 2" aggregate.
  4. The standpipe will extend 12" to 18" above the lip of the pit.
  5. If discharge will be pumped directly to a storm drainage system, the standpipe will be wrapped with filter fabric before installation.
  6. If desired, 1/4"-1/2" hardware cloth may be placed around the standpipe prior to attaching the filter fabric. This will increase the rate of water seepage into the pipe.

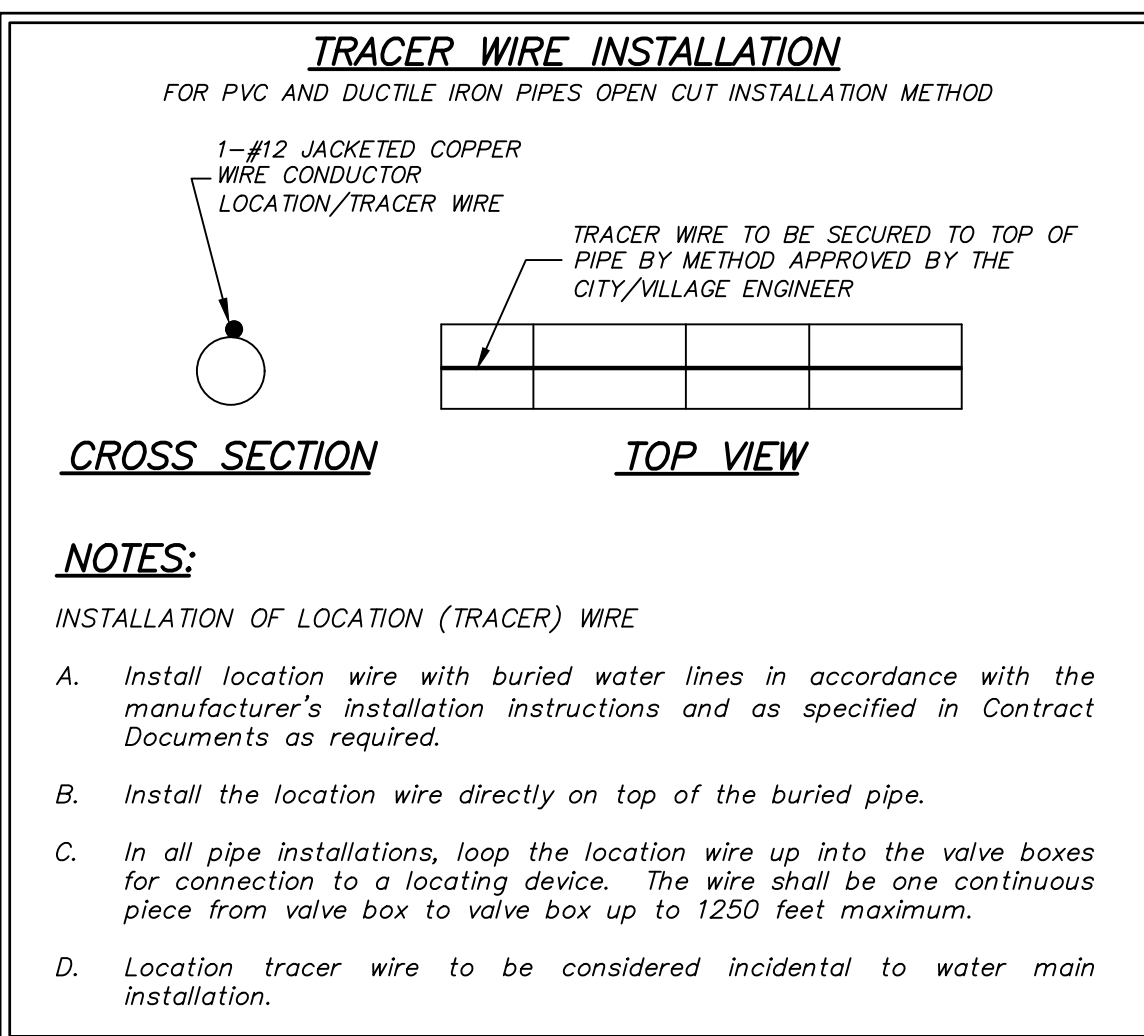
STANDARD DWG. NO. IL-650 SHEET 1 OF 1 DATE 8-11-94



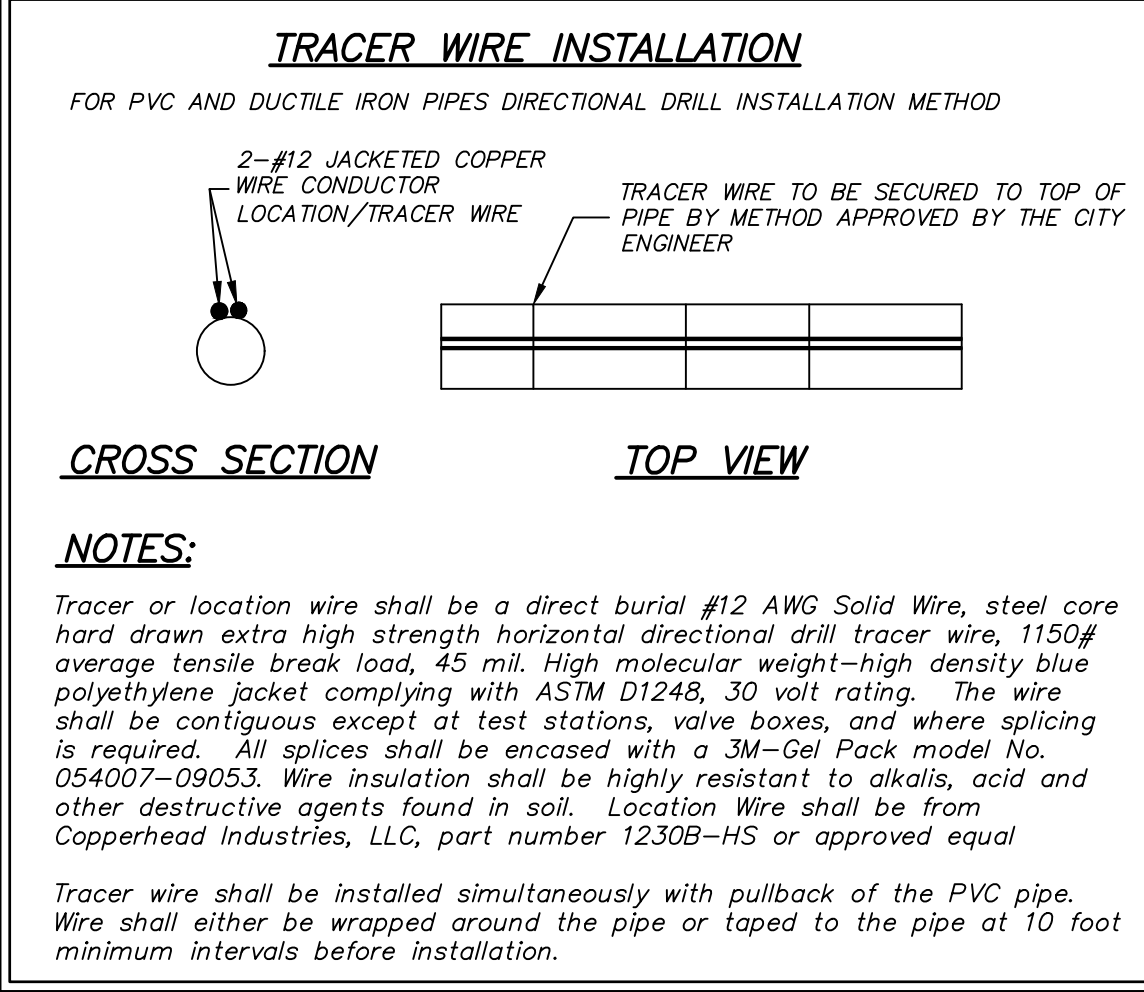
- INSTALL 6" OF WOOD CHIPS IN AREAS WHERE EQUIPMENT OPERATES. PROTECT TRUNK WITH PLANKING TO REDUCE SCARRING BY EQUIPMENT. REMOVE PLANKING, MATTING, AND MULCH AS SOON AS OPERATIONS ARE FINISHED.

TYP. TREE TRUNK PROTECTION DETAIL SCALE: NTS

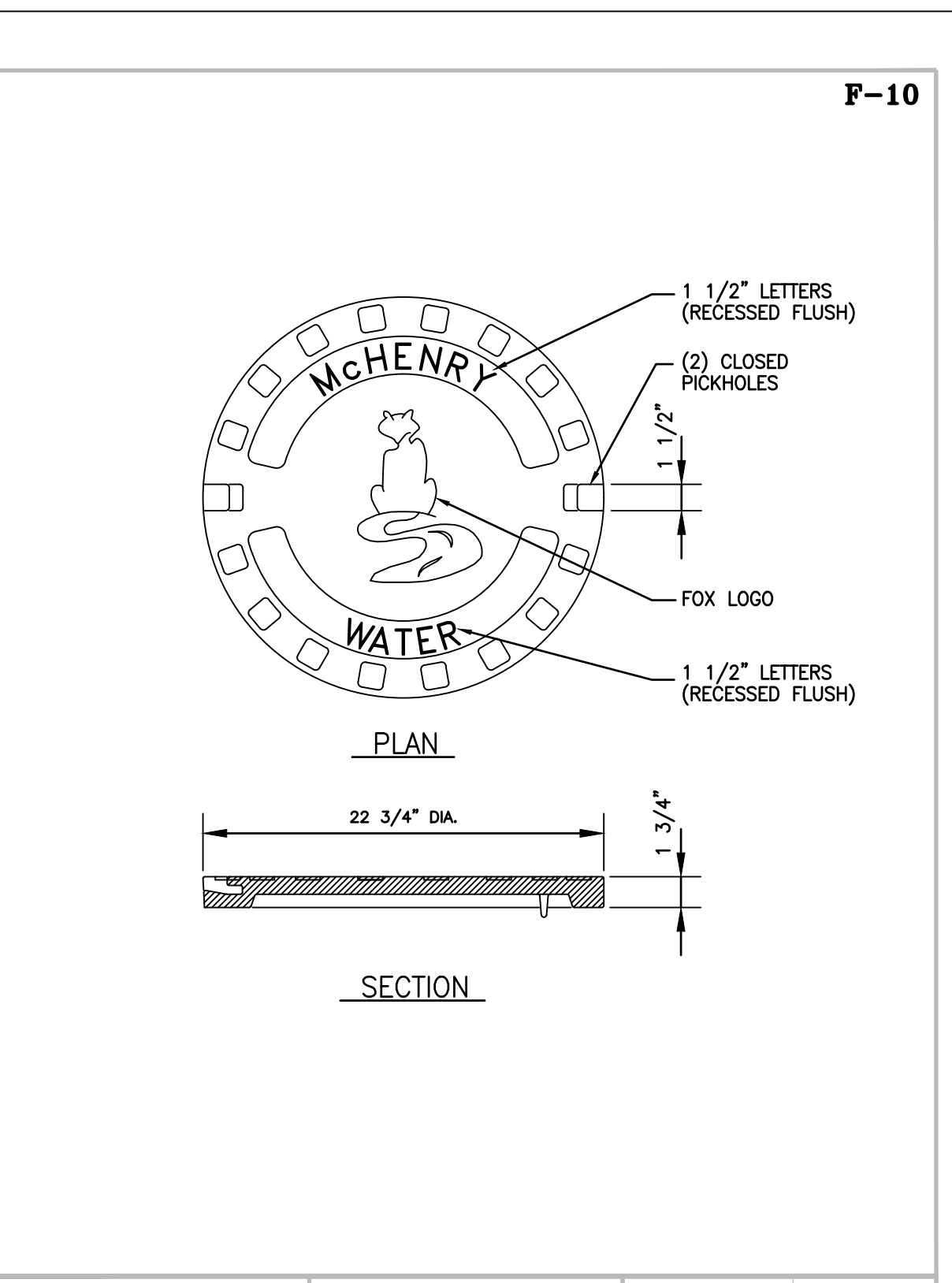
TYP. ROOT PRUNING DETAIL SCALE: NTS



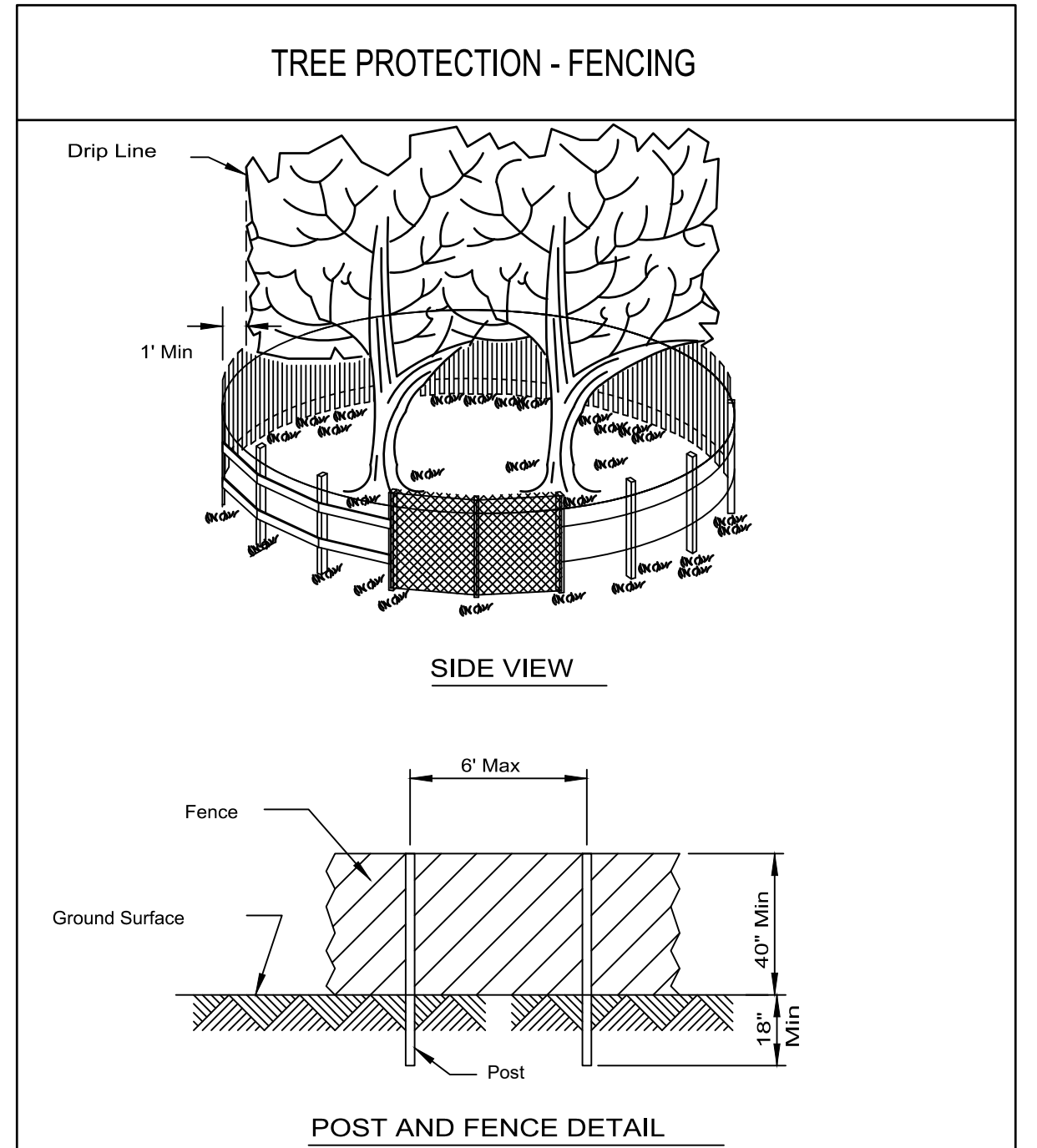
- NOTES:
- INSTALLATION OF LOCATION (TRACER) WIRE
- A. Install location wire with buried water lines in accordance with the manufacturer's installation instructions and as specified in Contract Documents as required.
  - B. Install the location wire directly on top of the buried pipe.
  - C. In all pipe installations, loop the location wire up into the valve boxes for connection to a locating device. The wire shall be one continuous piece from valve box to valve box up to 1250 feet maximum.
  - D. Location tracer wire to be considered incidental to water main installation.



- NOTES:
- Tracer or location wire shall be a direct burial #12 AWG Solid Wire, steel core hard drawn extra high strength horizontal directional drill tracer wire, 1150# average tensile break load, 45 mil. High molecular weight-high density blue polyethylene jacket complying with ASTM D1248, 30 volt rating. The wire shall be contiguous except at test stations, valve boxes, and where splicing is required. All splices shall be encased with a 3M-Gel Pack model No. 054007-09053. Wire insulation shall be highly resistant to alkalis, acid and other destructive agents found in soil. Location Wire shall be from Copperhead Industries, LLC, part number 1230B-HS or approved equal.
- Tracer wire shall be installed simultaneously with pullback of the PVC pipe. Wire shall either be wrapped around the pipe or taped to the pipe at 10 foot minimum intervals before installation.



WATER MANHOLE COVER DETAIL CITY OF MCHENRY, ILLINOIS



- NOTES:
1. The fence shall be located a minimum of 1 foot outside the drip line of the tree to be saved and in no case closer than 5 feet to the trunk of any tree.
  2. Fence posts shall be either standard steel posts or wood posts with a minimum cross sectional area of 3.0 sq. in.
  3. The fence may be either 40" high snow fence, 40" plastic web fencing or any other material as approved by the engineer/inspector.

STANDARD DWG. NO. IL-690 SHEET 1 OF 1 DATE 8-7-94

NO.	DATE	BY	REVISION DESCRIPTION

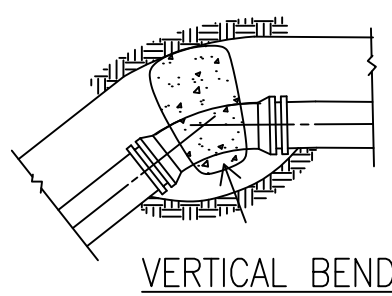
ILLINOIS DESIGN FIRM # 184.001322  
 1391 CORPORATE DRIVE, SUITE 203 MCHENRY, IL 60050  
 PHONE: 815.365.1778 FAX: 713.965.0044

KANE AVE. WATERMAIN REPLACEMENT  
 CLIENT: CITY OF MCHENRY, ILLINOIS  
 FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
 EROSION CONTROL DETAILS (2)

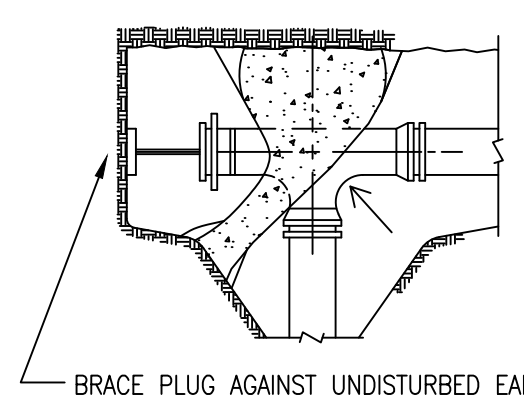
DRAWN BY: MPL  
 APPROVED: AKL  
 JOB DATE: 11/20/2024  
 JOB NO: 2402108

DRAWING C-08

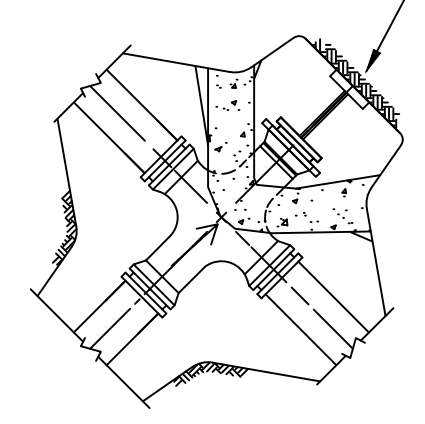
FOR BIDDING NOT FOR CONSTRUCTION



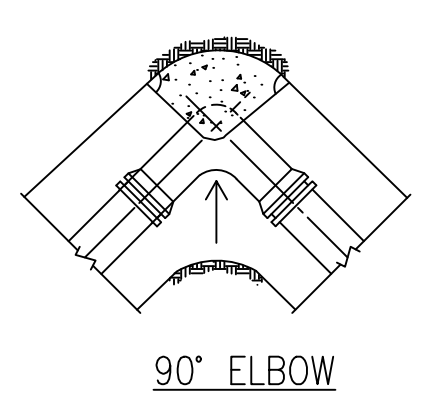
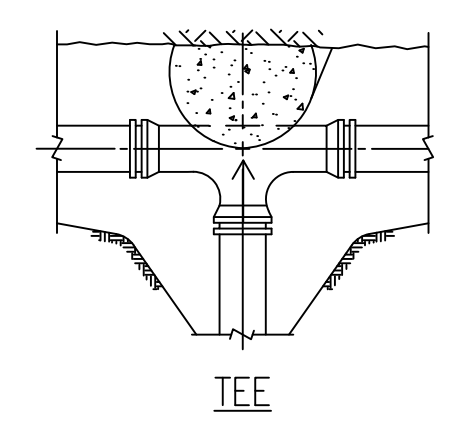
BRACE PLUG AGAINST UNDISTURBED EARTH



PLUGGED TEE



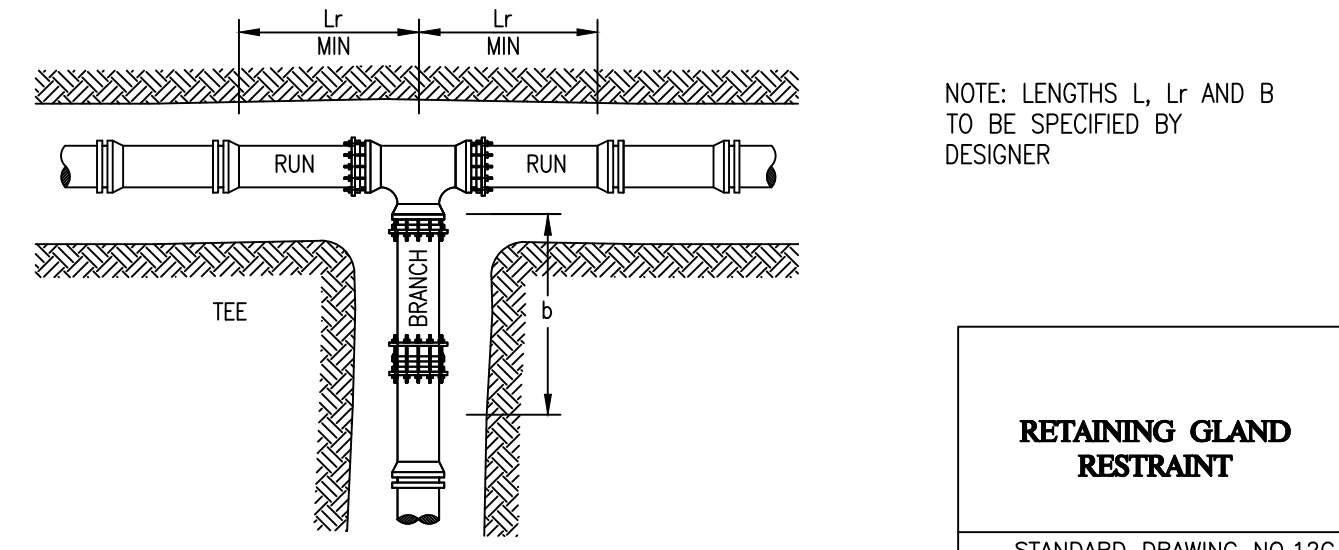
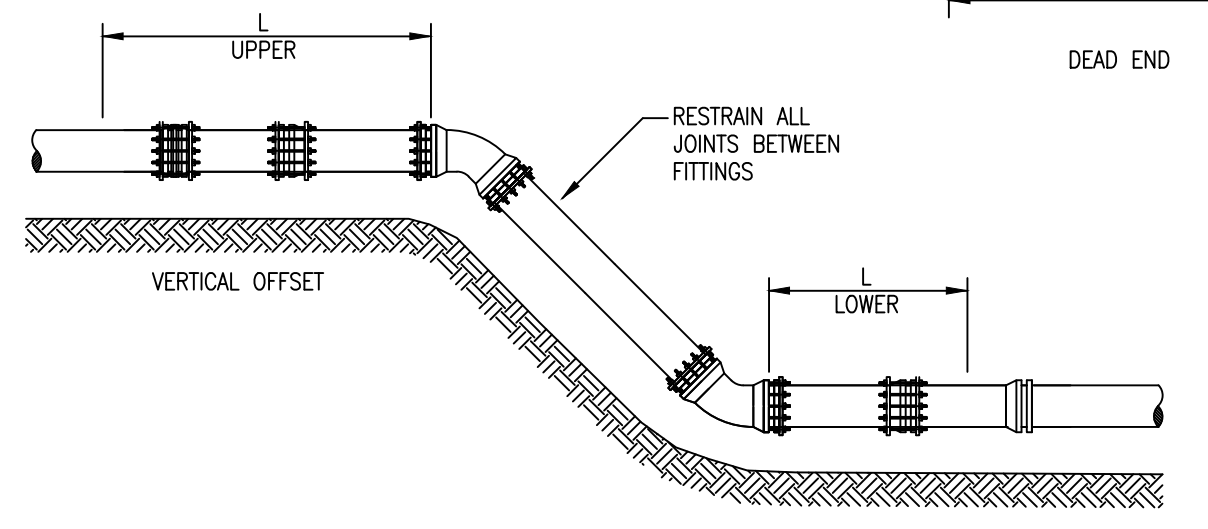
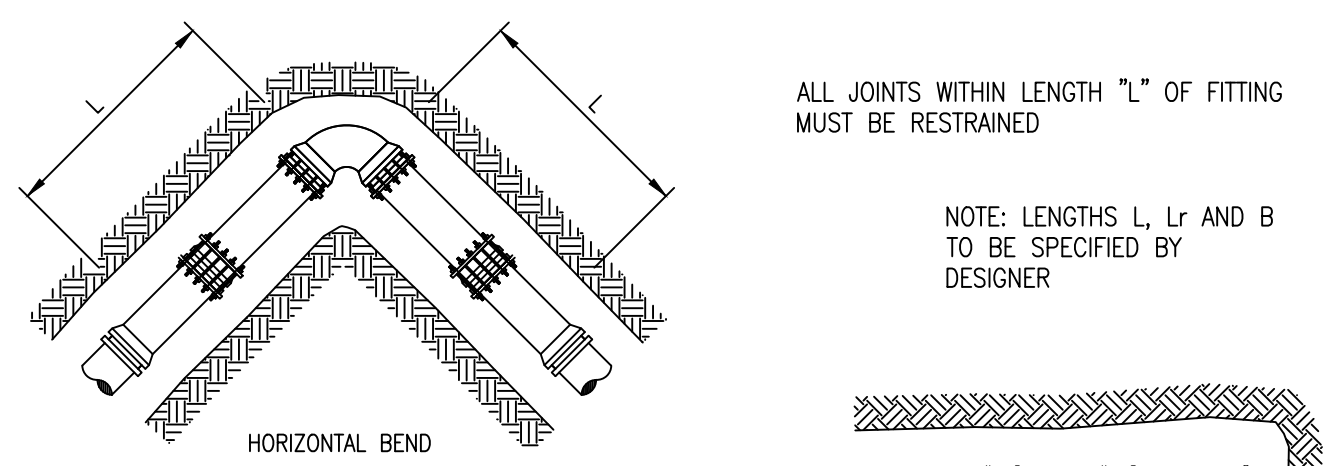
PLUGGED CROSS



NOTE: ALL BLOCKS BEAR AGAINST UNDISTURBED EARTH. ARROWS INDICATE DIRECTION OF THRUST. ALL BLOCKS TO BE 3000 P.S.I. CONCRETE. ALL FITTINGS SHOWN IN PLAN EXCEPT VERTICAL BEND.

**TYPICAL THRUST BLOCK INSTALLATIONS**

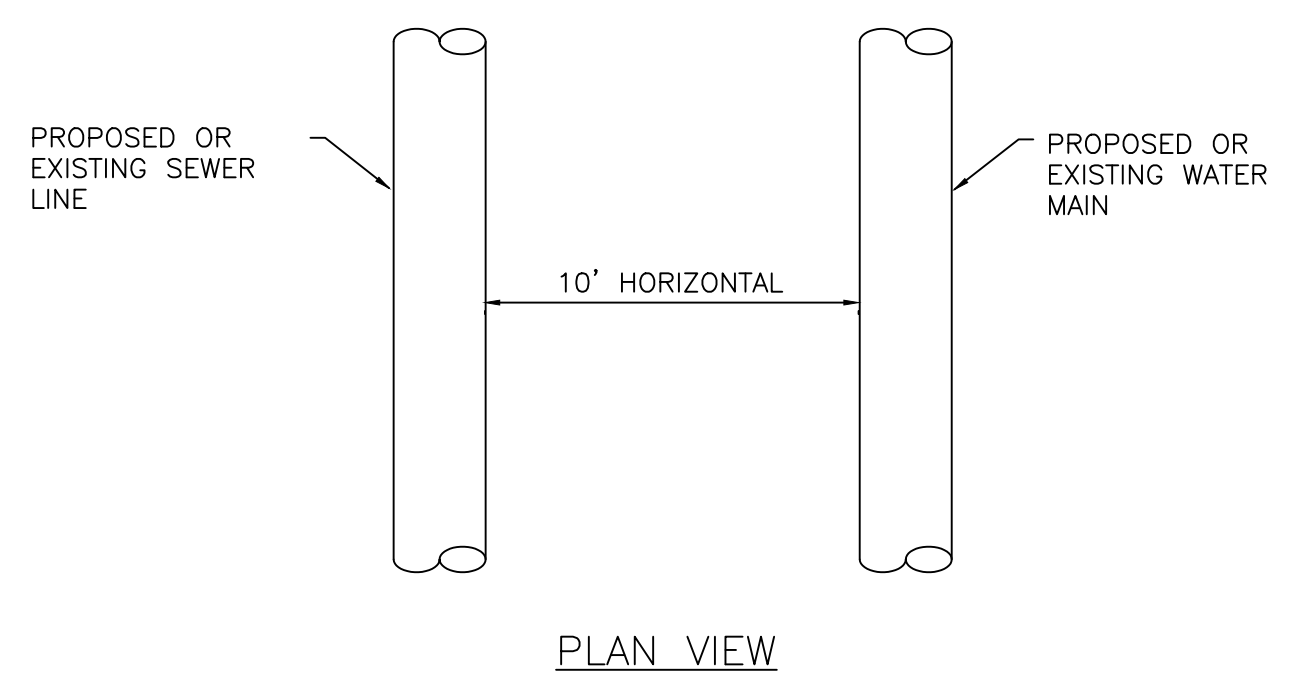
STANDARD DRAWING NO.12



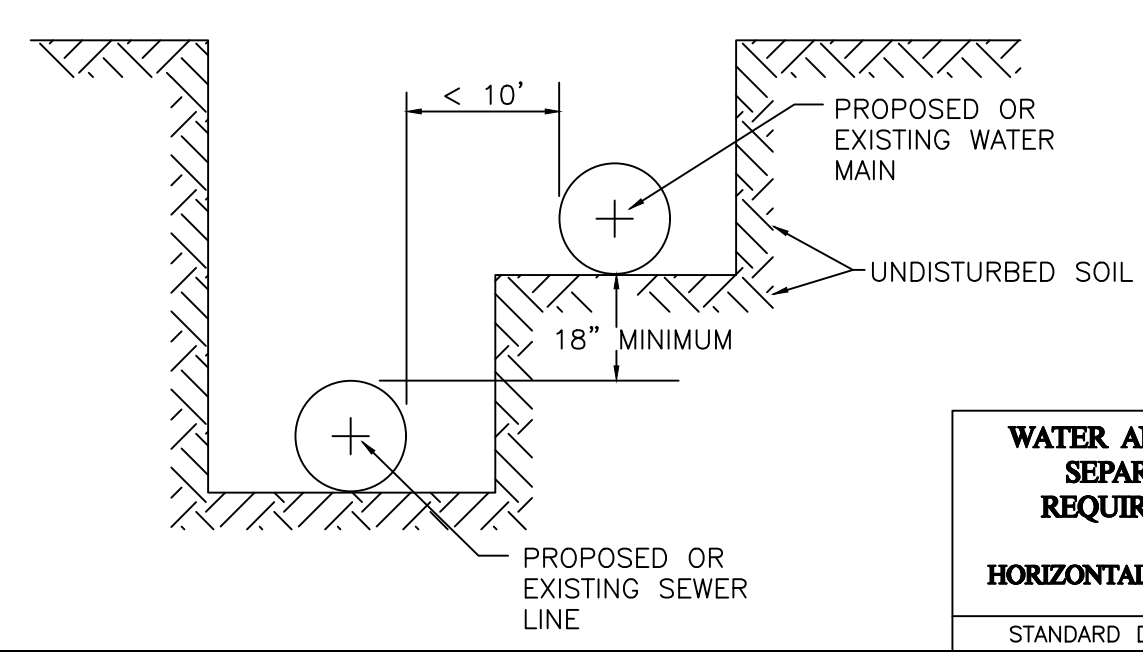
**RETAINING GLAND RESTRAINT**

STANDARD DRAWING NO.12G

WHEN PROPOSED SEWER (OR WATER) IS LOCATED 10 FEET OR MORE FROM EXISTING WATER (OR SEWER), NO SPECIAL CONSTRUCTION REQUIRED. SEE ARTICLE 41-2.01A (1)



WHEN PROPOSED SEWER (OR WATER) IS LOCATED LESS THAN 10 FEET FROM EXISTING WATER (OR SEWER), DETAILS BELOW SHALL APPLY. SEE ARTICLE 41-2.01B (2)

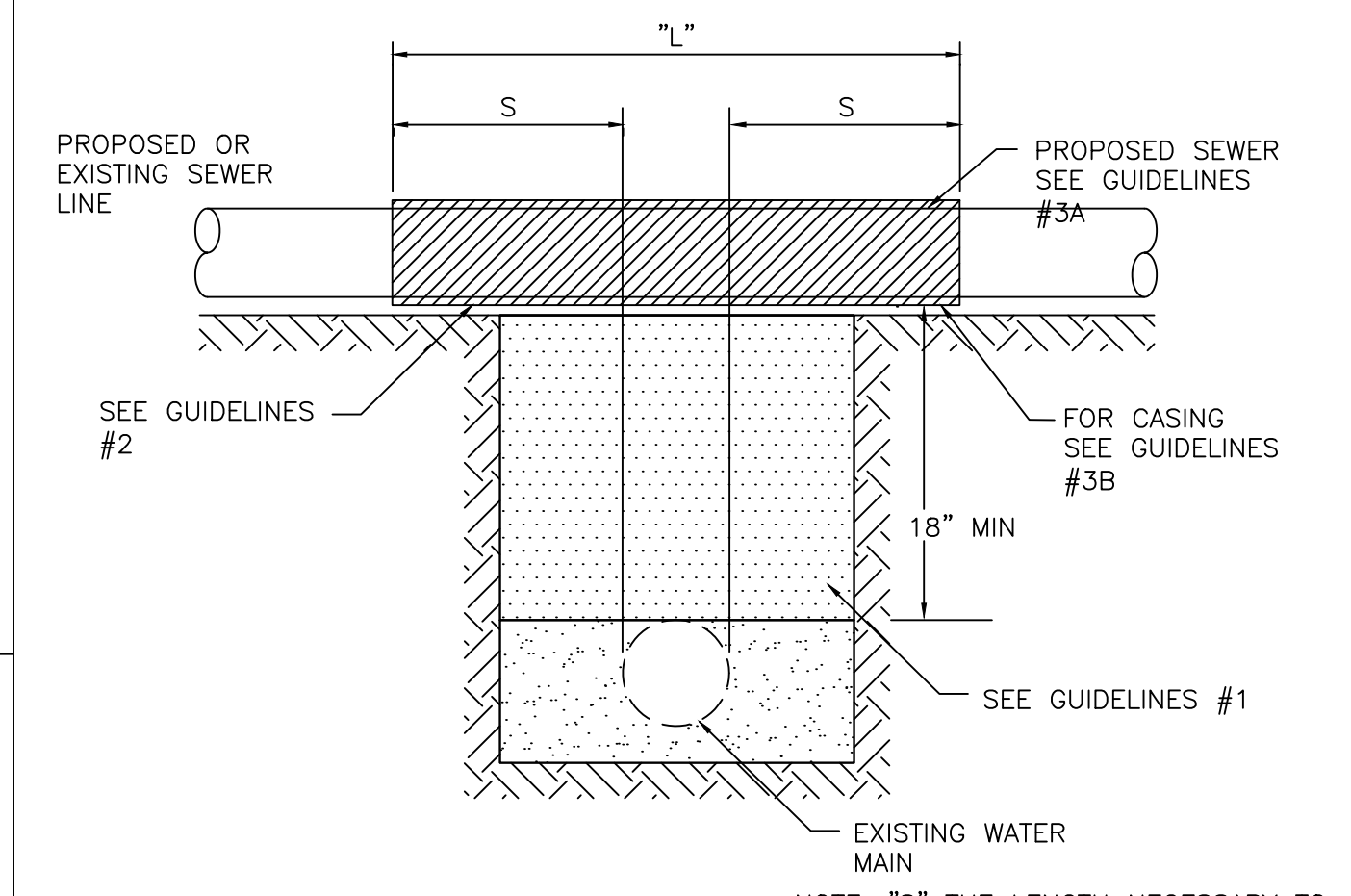


**WATER AND SEWER SEPARATION REQUIREMENTS**

HORIZONTAL SEPARATION  
STANDARD DRAWING NO.18

PROPOSED SEWER LINE WITH 18" MINIMUM VERTICAL SEPARATION ABOVE EXISTING WATER MAIN

NOTE: COMPACTION REQUIREMENTS REFER TO ARTICLE 20-4



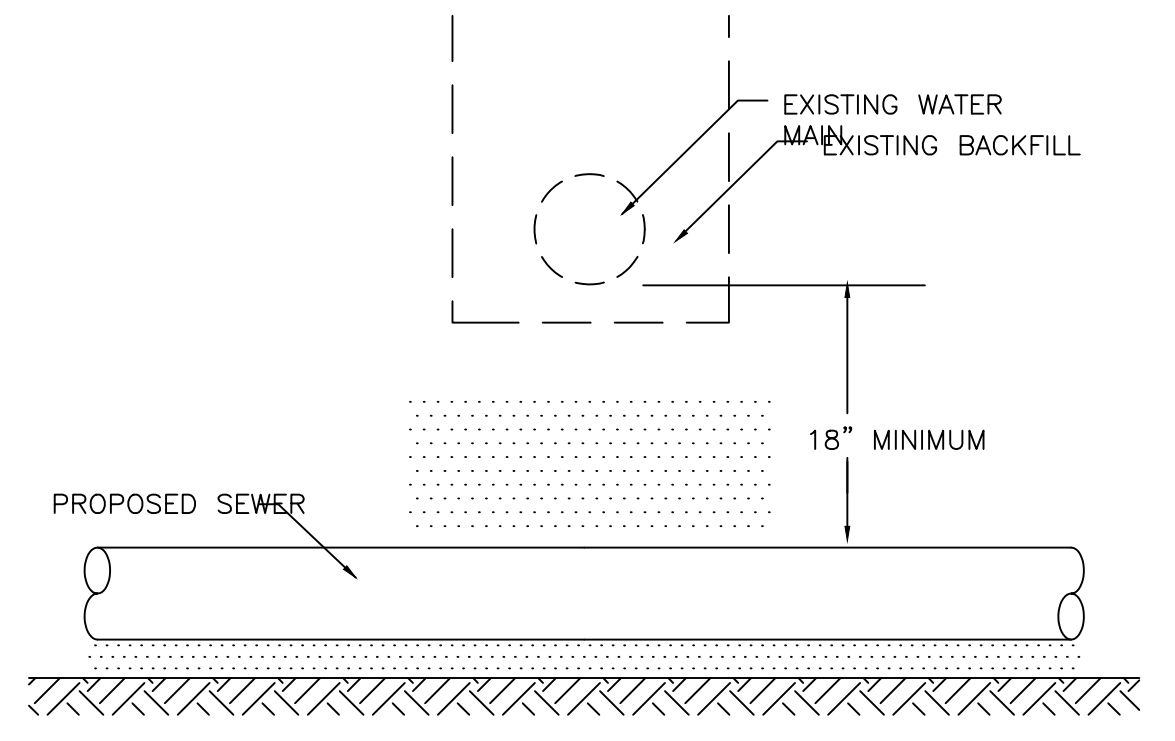
**GUIDELINES**

- IF SELECT GRANULAR BACKFILL EXISTS: REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT
- OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF SEWER AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
- CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR; USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED SEWER AND SEAL ENDS OF CASING.

**WATER AND SEWER SEPARATION REQUIREMENTS**

VERTICAL SEPARATION  
STANDARD DRAWING NO.19

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH 18" MINIMUM VERTICAL SEPARATION.



**GUIDELINES**

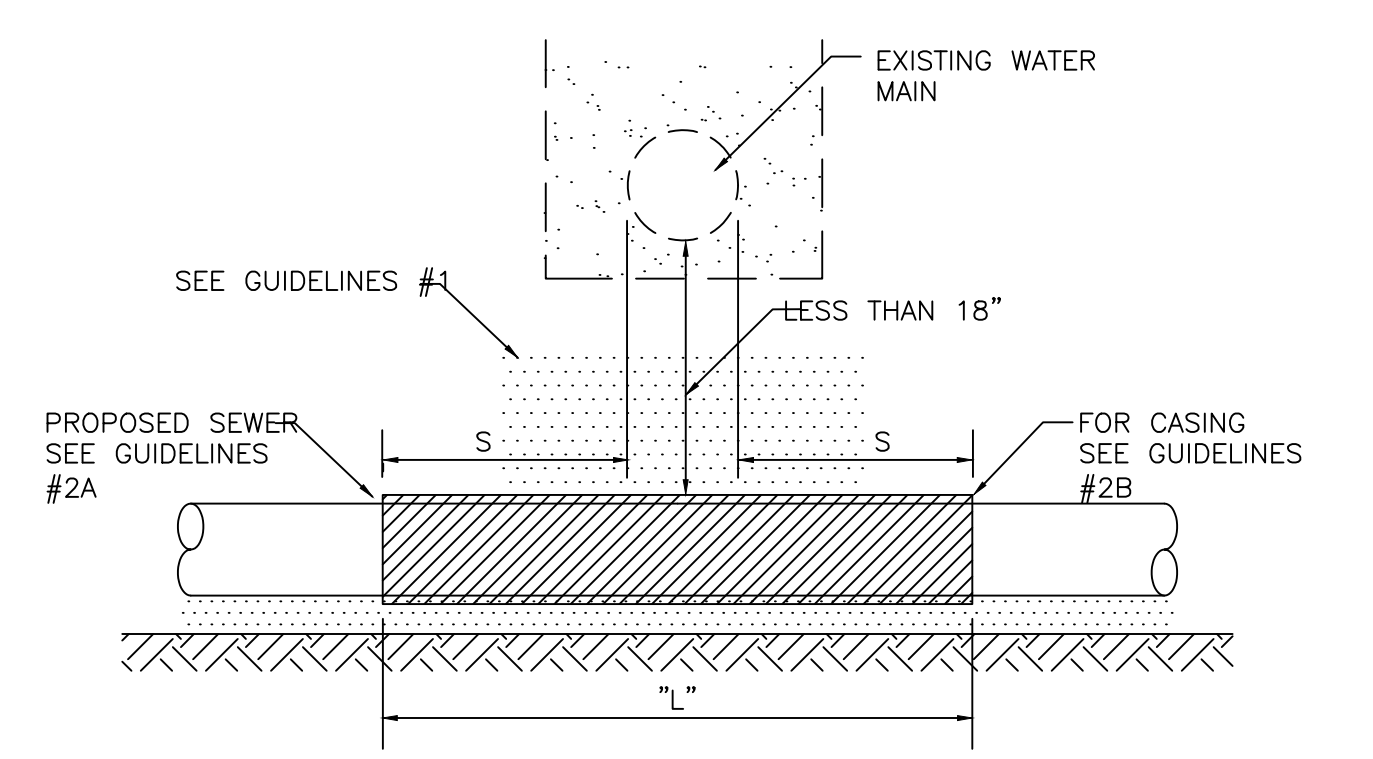
- PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

**WATER AND SEWER SEPARATION REQUIREMENTS**

VERTICAL SEPARATION  
STANDARD DRAWING NO.20

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH LESS THAN 18" MINIMUM VERTICAL SEPARATION.

NOTE: COMPACTION REQUIREMENTS REFER TO ARTICLE 20-4



**GUIDELINES**

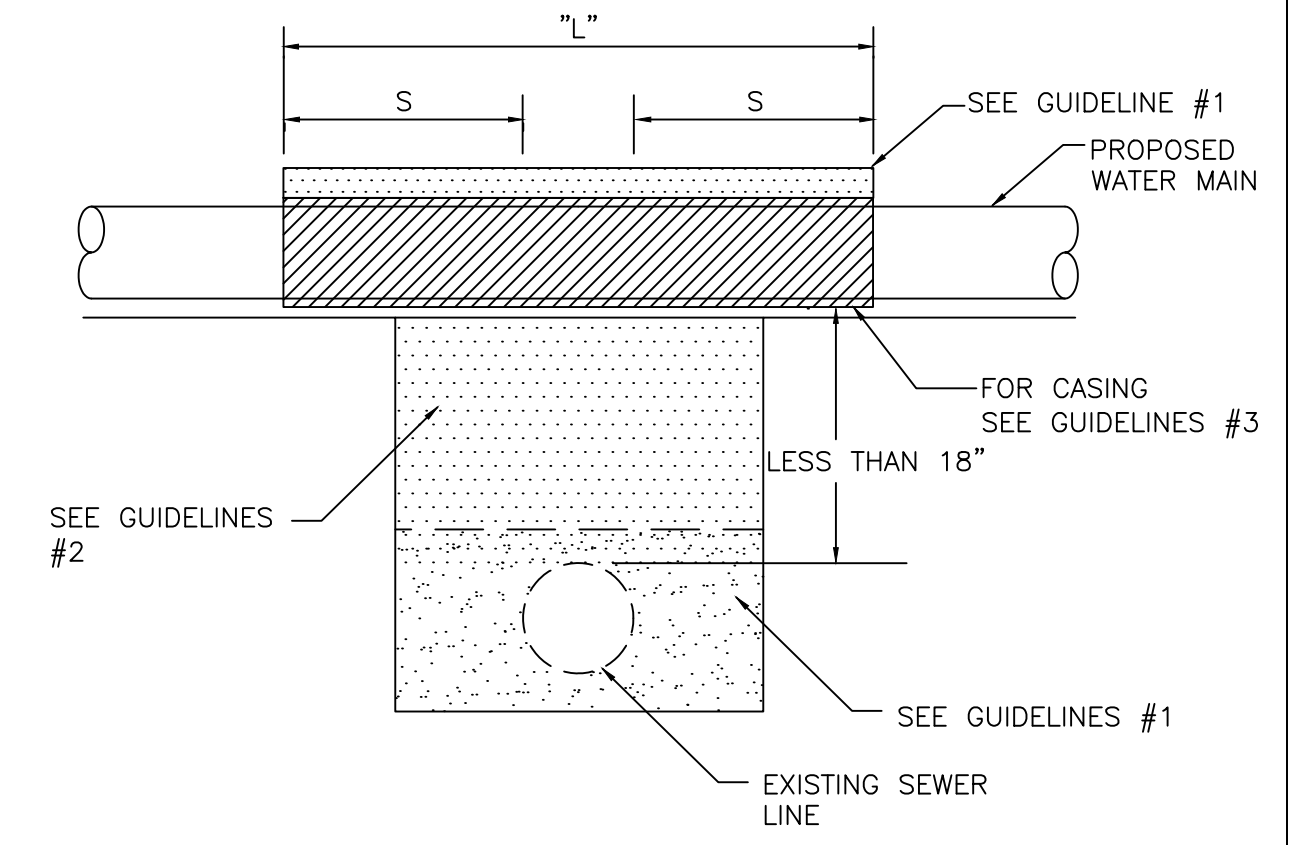
- OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF SEWER AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT FOR "S" FEET ON EACH SIDE OF WATER MAIN.
- CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR; USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED SEWER AND SEAL ENDS OF CASING.
- PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH

**WATER AND SEWER SEPARATION REQUIREMENTS**

VERTICAL SEPARATION  
STANDARD DRAWING NO.21

PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE WITH LESS THAN 18" VERTICAL SEPARATION

NOTE: COMPACTION REQUIREMENTS REFER TO ARTICLE 20-4



**GUIDELINES**

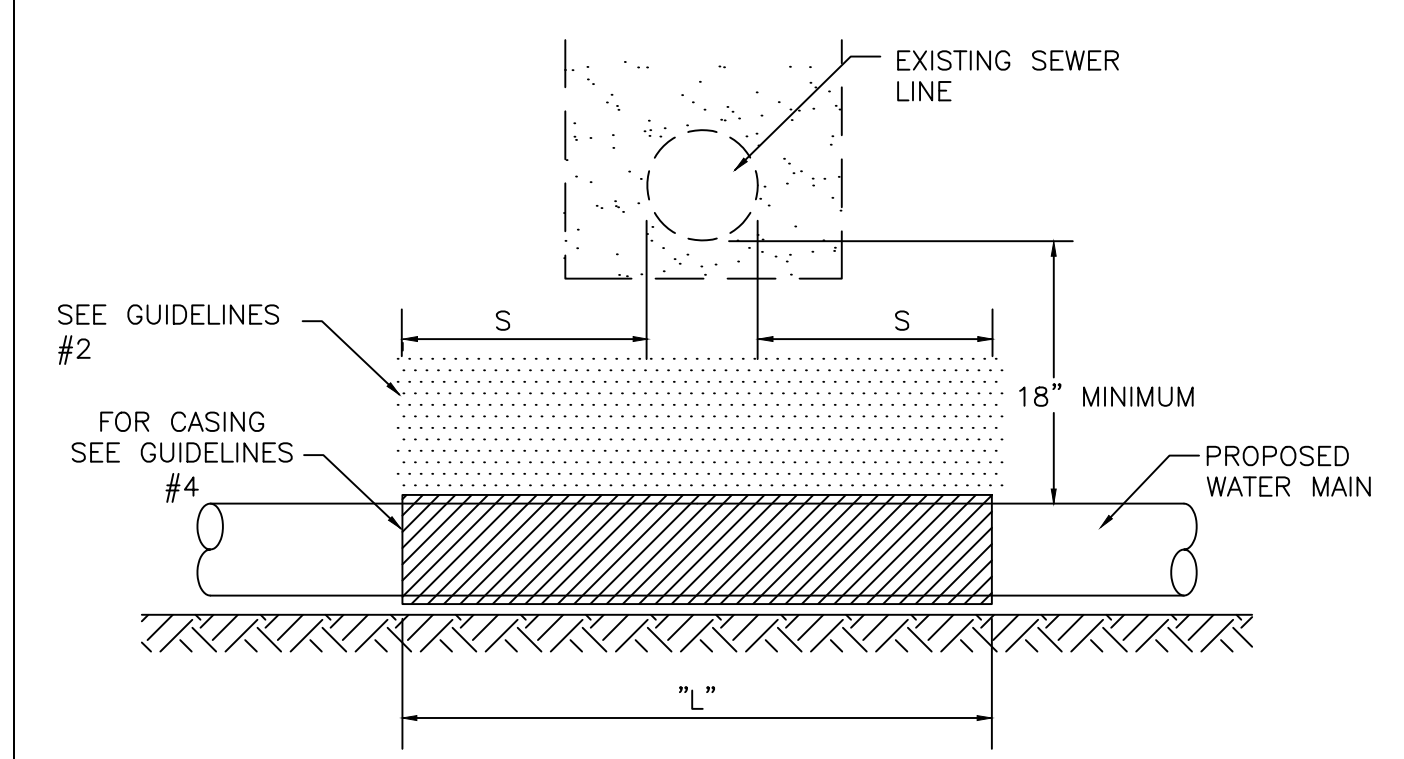
- OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
- IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
- USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
- POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING AND SEWER

**WATER AND SEWER SEPARATION REQUIREMENTS**

VERTICAL SEPARATION  
STANDARD DRAWING NO.22

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM VERTICAL SEPARATION.

NOTE: COMPACTION REQUIREMENTS REFER TO ARTICLE 20-4



**GUIDELINES**

- OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
- IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
- PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
- USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.

**WATER AND SEWER SEPARATION REQUIREMENTS**

VERTICAL SEPARATION  
STANDARD DRAWING NO.23

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE  
DRIVE, SUITE 203  
MCHENRY, IL 60050  
PHONE: 815.365.1778  
FAX: 713.965.0044



KANE AVE. WATERMAIN REPLACEMENT  
CLIENT: CITY OF MCHENRY  
MCHENRY, ILLINOIS  
FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
STANDARD CONSTRUCTION DETAILS (1)

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0 1"  
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

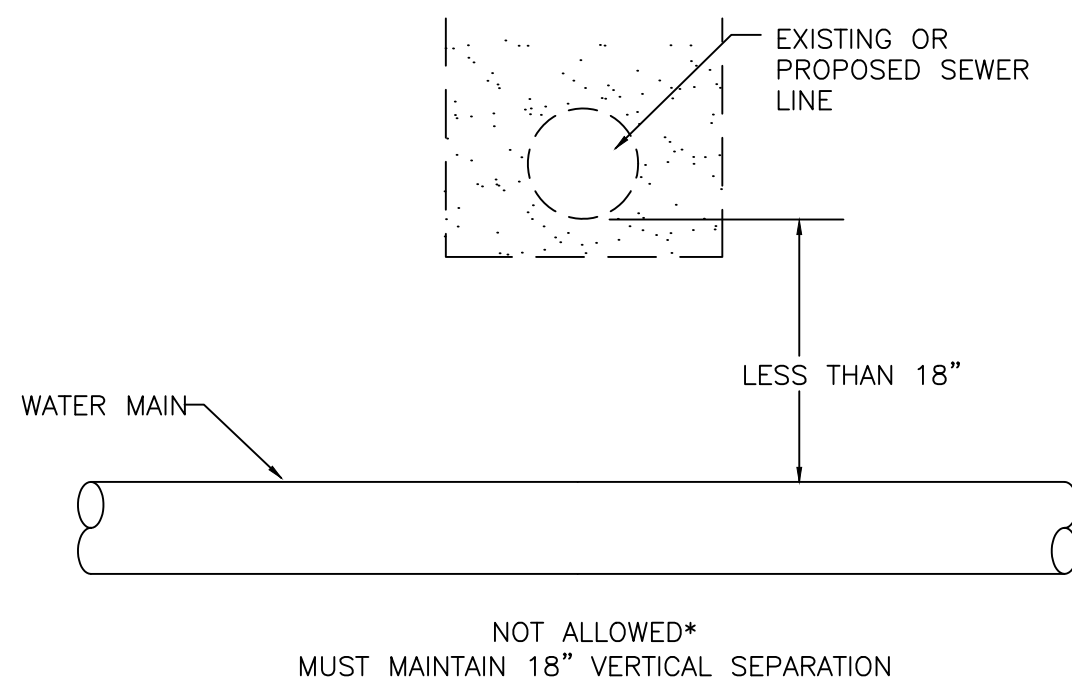
DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING

C-09

FOR BIDDING  
NOT FOR CONSTRUCTION

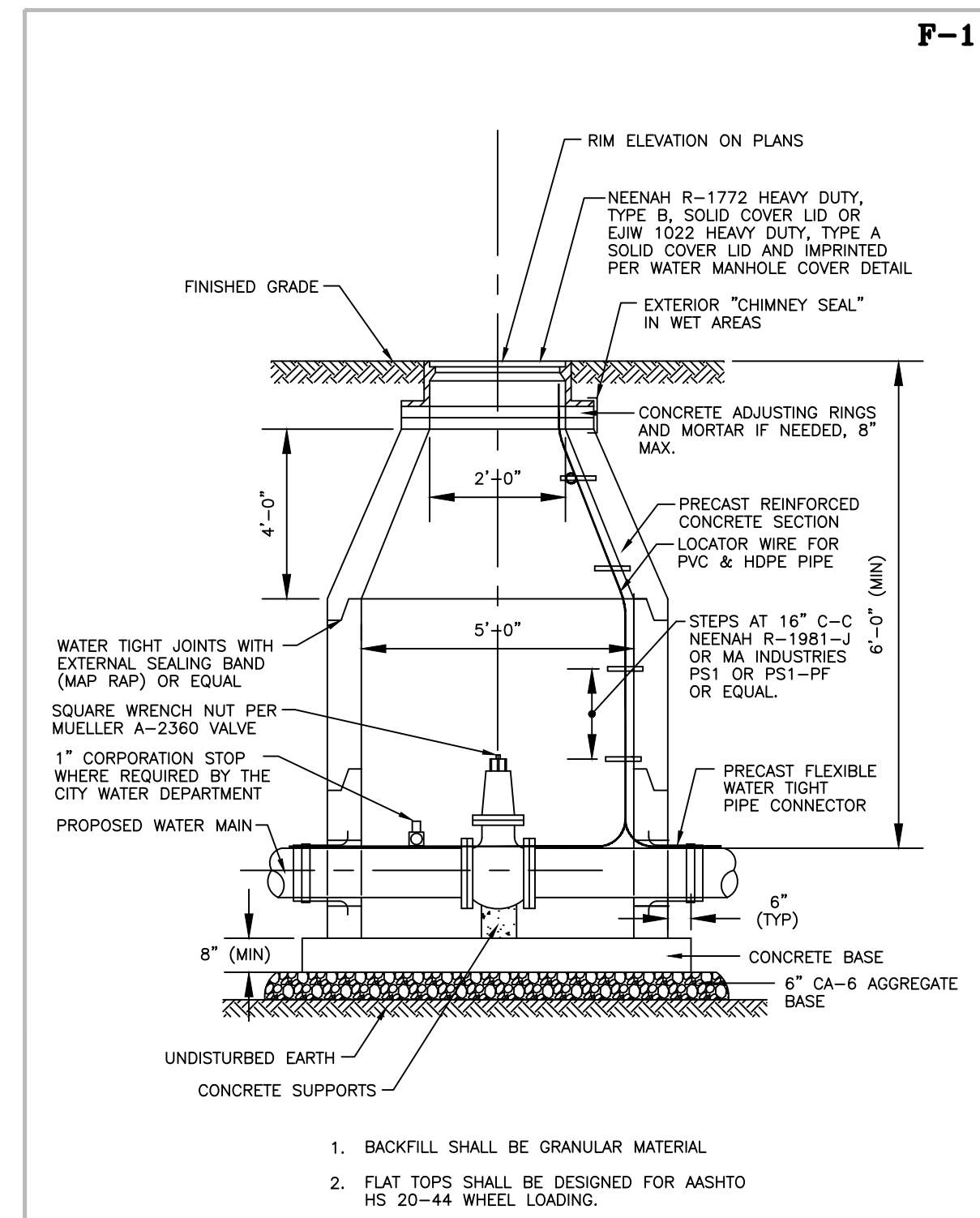
PLACEMENT OF WATER MAIN BELOW EXISTING OR PROPOSED SEWER LINE WITH LESS THAN 18" MINIMUM VERTICAL SEPARATION. NOT ALLOWED.



**WATER AND SEWER SEPARATION REQUIREMENTS**

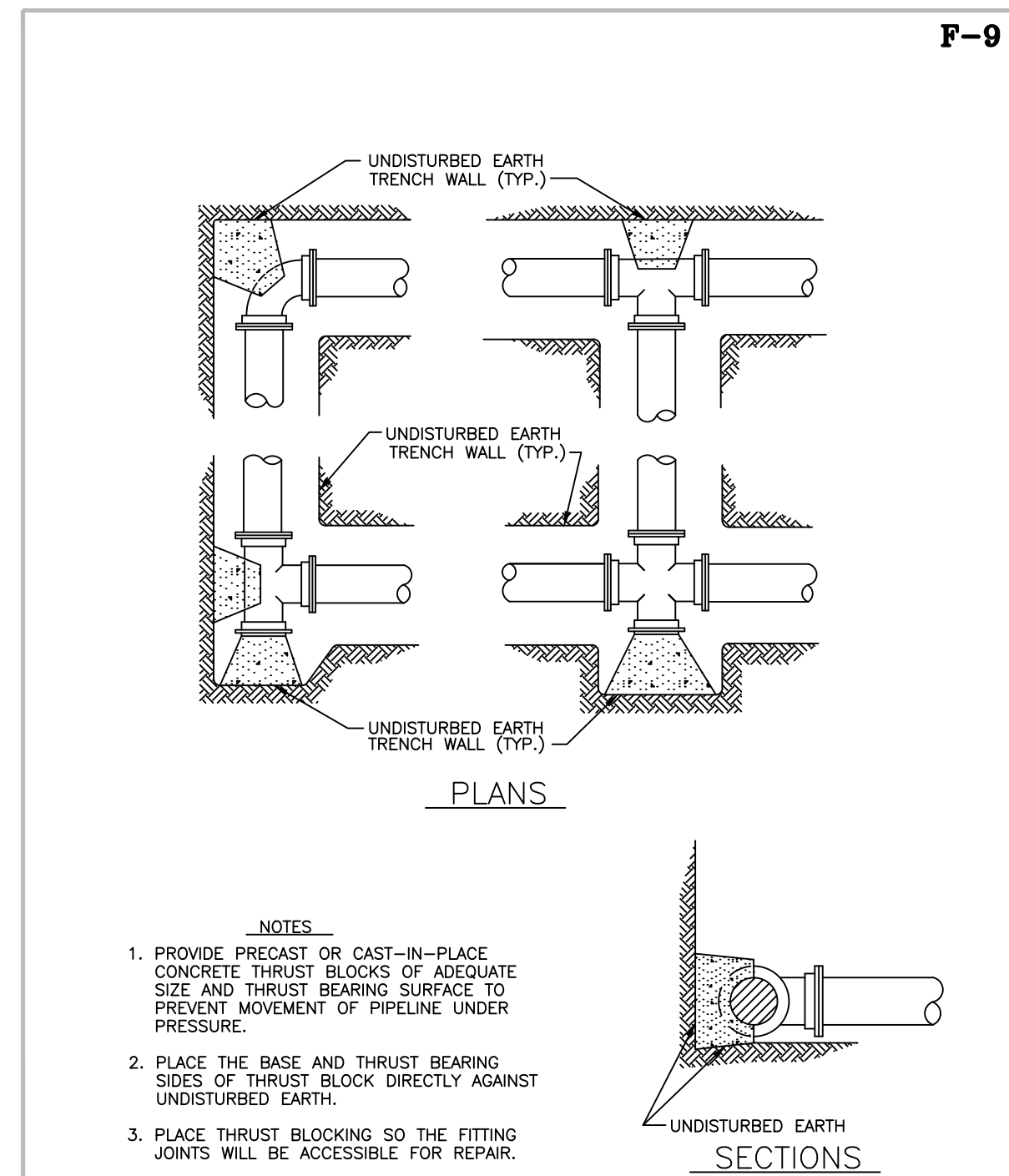
**VERTICAL SEPARATION**

STANDARD DRAWING NO.24



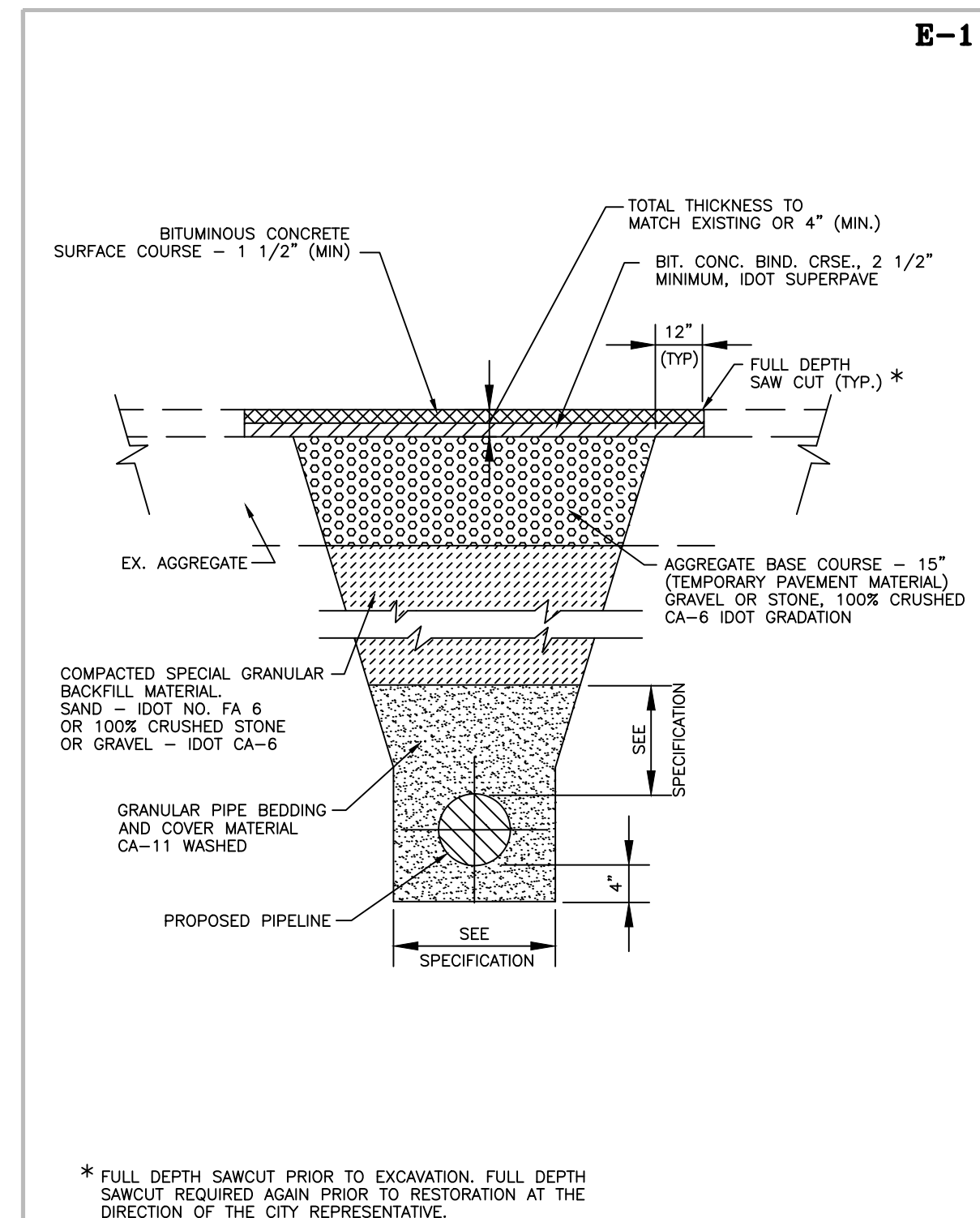
REVISIONS	DATE
FINAL	6-20-03
BOOT & STEPS	11-18-03
ADJ. RING HEIGHT	1-16-04
UPDATE	8-27-07

**STANDARD WATER VALVE VAULT**  
**CITY OF McHENRY, ILLINOIS**



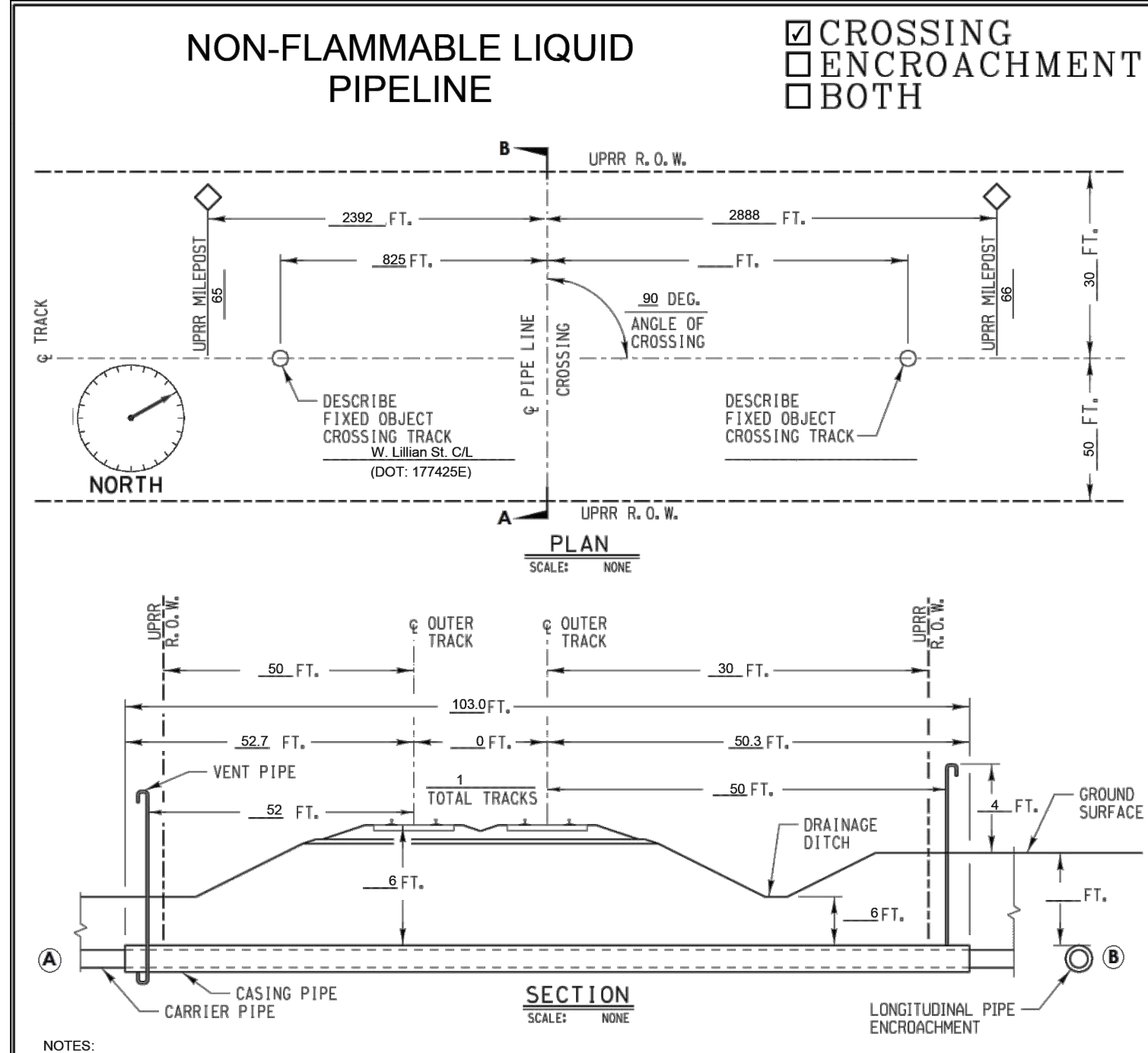
REVISIONS	DATE
FINAL	6-20-03

**WATER MAIN THRUST BLOCKING DETAILS**  
**CITY OF McHENRY, ILLINOIS**

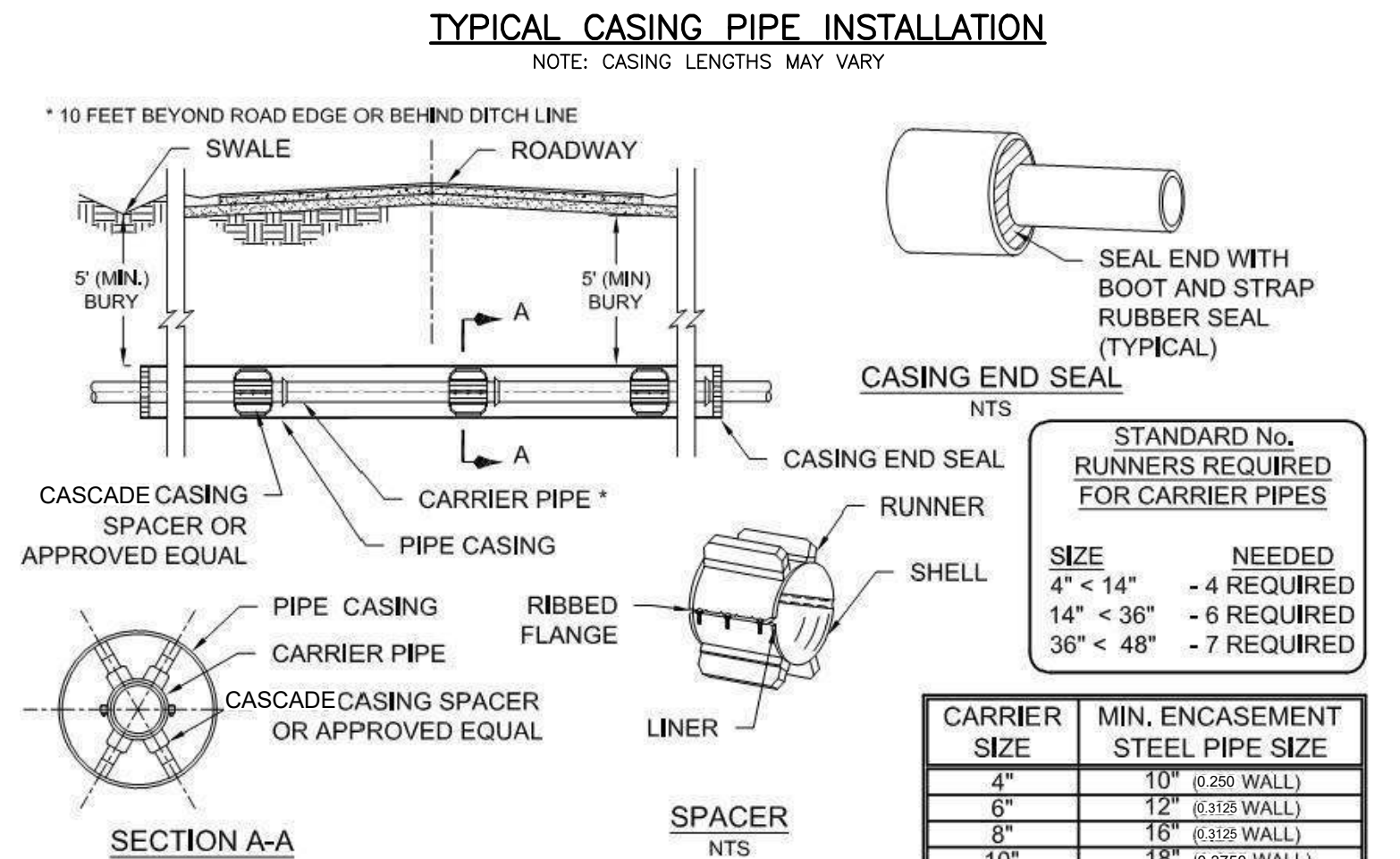


REVISIONS	DATE
FINAL	6-20-03
UPDATE	8-27-07

**EXISTING PAVEMENT TYPICAL TRENCH DETAIL AGGREGATE BASE**  
**CITY OF McHENRY, ILLINOIS**



<p>NOTES:</p> <p>1) ALL DIMENSIONS MEASURED PERPENDICULAR TO THE CENTERLINE OF TRACK</p> <p>2) REFER TO AREMA VOLUME 1, CHAPTER 1, PART 5, SECTION 5.1</p> <p>A) METHOD OF INSTALLATION BORED AND JACKED</p> <p>B) DIST. FROM CENTERLINE OF TRACK TO PIPE ENCROACHMENT _____</p> <p>C) SIGNS PROVIDED? AT MINIMUM SIGNS WILL BE PROVIDED AS STATED ABOVE</p> <p>D) CARRIER MATERIAL PLASTIC _____ IF RCP, CLASS V? NA _____</p> <p>COMMODITY TO BE CONVEYED DRINKING WATER</p> <p>OPERATIONAL PRESSURE 190 PSI, MAOP 100 PSI,</p> <p>WALL THICKNESS (INCH) / SCHEDULE 9.73 _____, DIAMETER 12 _____ IN,</p> <p>CATHODIC/COATING PROTECTION NO _____</p> <p>E) CASING MATERIAL STEEL PIPE _____ IF RCP, CLASS V? NA _____</p> <p>TOTAL LENGTH CASING PIPE: 103 _____ FT.</p> <p>WALL THICKNESS 0.4375 _____ IN, DIAMETER 24 _____ IN,</p> <p>CATHODIC/COATING PROTECTION YES _____</p> <p>CASING PIPE IS SEALED AT THE ENDS.</p> <p>F) DISTANCE FROM CENTERLINE OF TRACK TO NEAR FACE OF BORING AND JACKING PITS WHEN MEASURED AT RIGHT ANGLES _____ AND _____</p>	<p><b>BUILDING AMERICA</b></p> <p>EXHIBIT "A"</p> <p>SUBDIVISION: McHenry Sub.</p> <p>TRACK TYPE: MAINLINE</p> <p>M.P.: 65.45      LAT.: 42 33805556</p> <p>E.S.M.: 1295+00 ±      LONG.: -88.27722222</p> <p>NEAREST CITY: COUNTY: STATE:</p> <p>McHENRY      McHENRY      IL</p> <p>APPLICANT: CITY OF McHENRY</p> <p>FILE NO.: 0799465      DATE: 09/23/2024</p>
---	---



CARRIER SIZE	MIN. ENCASEMENT STEEL PIPE SIZE
4"	10" (0.250 WALL)
6"	12" (0.312 WALL)
8"	16" (0.312 WALL)
10"	18" (0.375 WALL)
12"	20" (0.375 WALL)
14"	24" (0.4375 WALL)
16"	26" (0.4375 WALL)
18"	30" (0.5000 WALL)
20"	36" (0.5625 WALL)
24"	42" (0.6250 WALL)

**NOTES:**

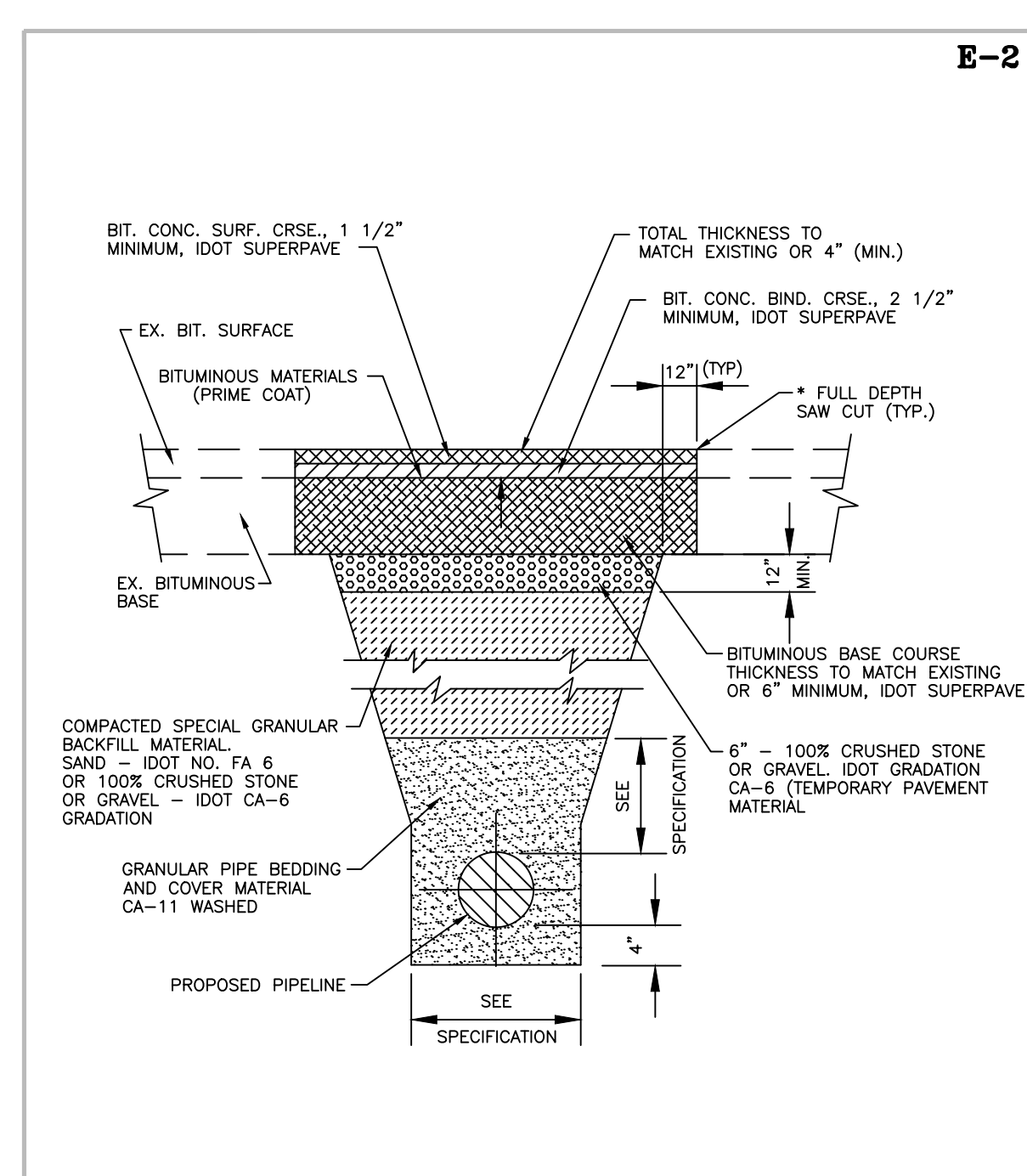
- UNDERGROUND CROSSINGS REQUIRE A MIN. VERTICAL CLEARANCE OF 5' BELOW PAVEMENT SUBGRADE FOR CITY STREETS, HIGHWAYS AND SUBAQUEOUS CROSSINGS AND WHEN BELOW UNPAVED GROUND INCLUDING DITCH GRADE FOLLOW CITY OF McHENRY'S REQUIREMENTS.

**SPACERS**

- SPACERS SHALL BE BOLT-ON STYLE WITH A TWO PIECE SOLID SHELL MADE FROM T-304 STAINLESS STEEL, MINIMUM 14 GAUGE THICKNESS. THE SHELL SHALL BE LINED WITH A RIBBED PVC SHEET OF A 0.090" THICKNESS THAT OVERLAPS THE EDGES. RUNNERS MADE FROM UHMW POLYMER SHALL BE ATTACHED TO RISERS AT APPROPRIATE POSITIONS TO PROPERLY LOCATE THE CARRIER WITHIN THE CASING AND TO EASE INSTALLATION. RISERS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS AND SHALL BE ATTACHED TO THE SHELL BY MIG WELDING. ALL WELDS SHALL BE FULLY PASSIVATED. ALL FASTENERS SHALL BE MADE FROM T-304 STAINLESS STEEL.

**CARRIER PIPE**

- CARRIER PIPE SHALL BE CENTERED WITHIN CASING BY USE OF STAINLESS STEEL CASING SPACERS.



REVISIONS	DATE
FINAL	6-20-03
UPDATE	8-27-07

**EXISTING PAVEMENT TYPICAL TRENCH DETAIL BITUMINOUS BASE**  
**CITY OF McHENRY, ILLINOIS**

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE DRIVE, SUITE 203  
McHENRY, IL 60050  
PHONE: 815.365.1778  
FAX: 713.965.0044

**HRGreen**

**KANE AVE. WATERMAIN REPLACEMENT**  
**CLIENT: CITY OF McHENRY**  
**McHENRY, ILLINOIS**

FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
**STANDARD CONSTRUCTION DETAILS (2)**

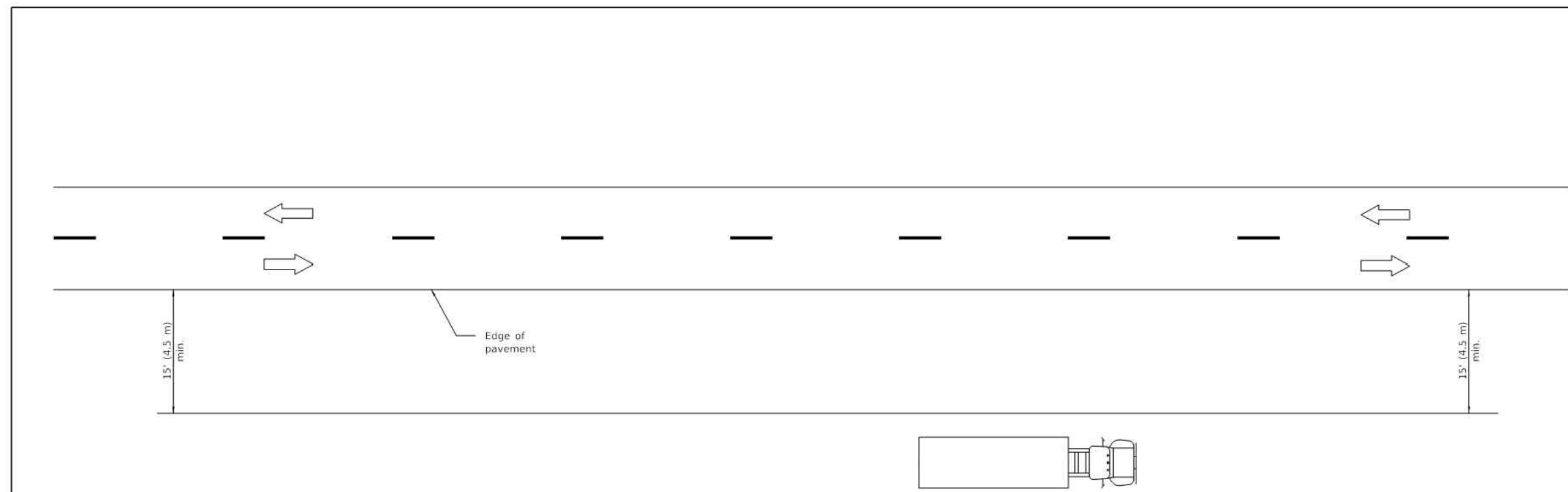
BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0 \_\_\_\_\_ 1"

IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING  
**C-10**

**FOR BIDDING NOT FOR CONSTRUCTION**



**TYPICAL APPLICATIONS**

- Landscaping work
- Utility work
- Fencing contracts and maintenance
- Cleaning culverts

**GENERAL NOTES**

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701006.

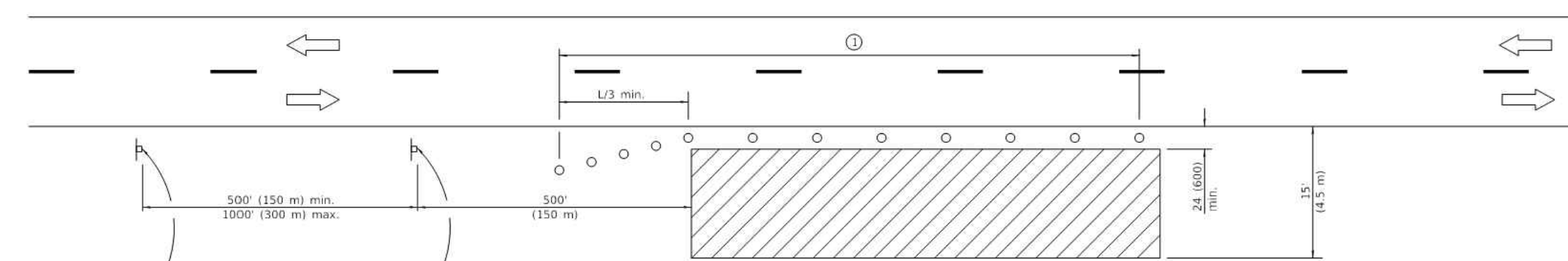
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

**OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY**

STANDARD 701001-02

Illinois Department of Transportation  
 PASSED: January 3, 2009  
 ENGINEER OF SPECIAL DISTRICTS: [Signature]  
 APPROVED: January 3, 2009  
 ENGINEER OF DESIGN AND ENVIRONMENT: [Signature]



- For contract construction projects: ROAD CONSTRUCTION AHEAD (W20-110310)-48
- For maintenance and utility projects: ROAD WORK AHEAD (W20-110)-48

**TYPICAL APPLICATIONS**

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delineator installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

**SYMBOLS**

- Work area
- Sign
- Cone, drum or barricade

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (6000) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	English	FORMULAS (Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{40}$	$L = \frac{WS^2}{130}$
45 mph (80 km/h) or greater:	$L = \frac{WS^2}{5}$	$L = 0.65(W/S)$

W = Width of offset in feet (meters).  
 S = Normal posted speed mph (km/h).

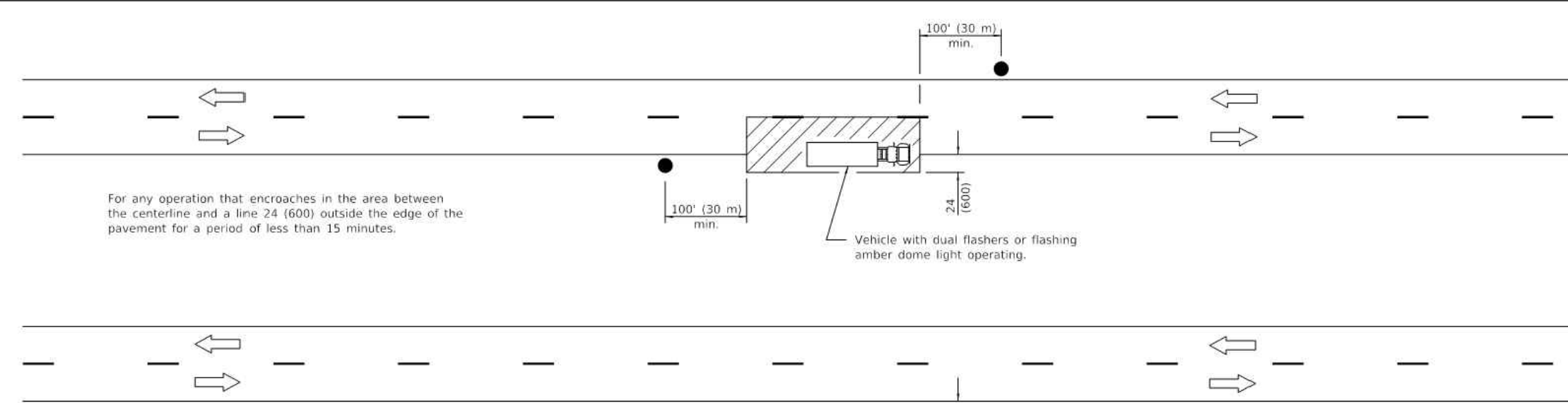
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Diminished text 'WORKERS' sign.

**OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

STANDARD 701006-05

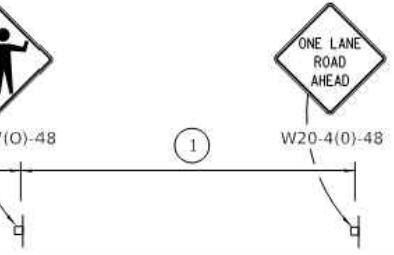
Illinois Department of Transportation  
 PASSED: January 3, 2014  
 ENGINEER OF SPECIAL DISTRICTS: [Signature]  
 APPROVED: January 3, 2014  
 ENGINEER OF DESIGN AND ENVIRONMENT: [Signature]



For any operation that encroaches in the area between the centerline and a line 24' (600) outside the edge of the pavement for a period of less than 15 minutes.

For any operation that is more than 24' (600) outside the edge of the pavement for a period of less than 60 minutes.

For any operation that encroaches in the area between the centerline and a line 24' (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.



Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

1 = Refer to SIGN SPACING table for distances.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

**LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS**

STANDARD 701301-04

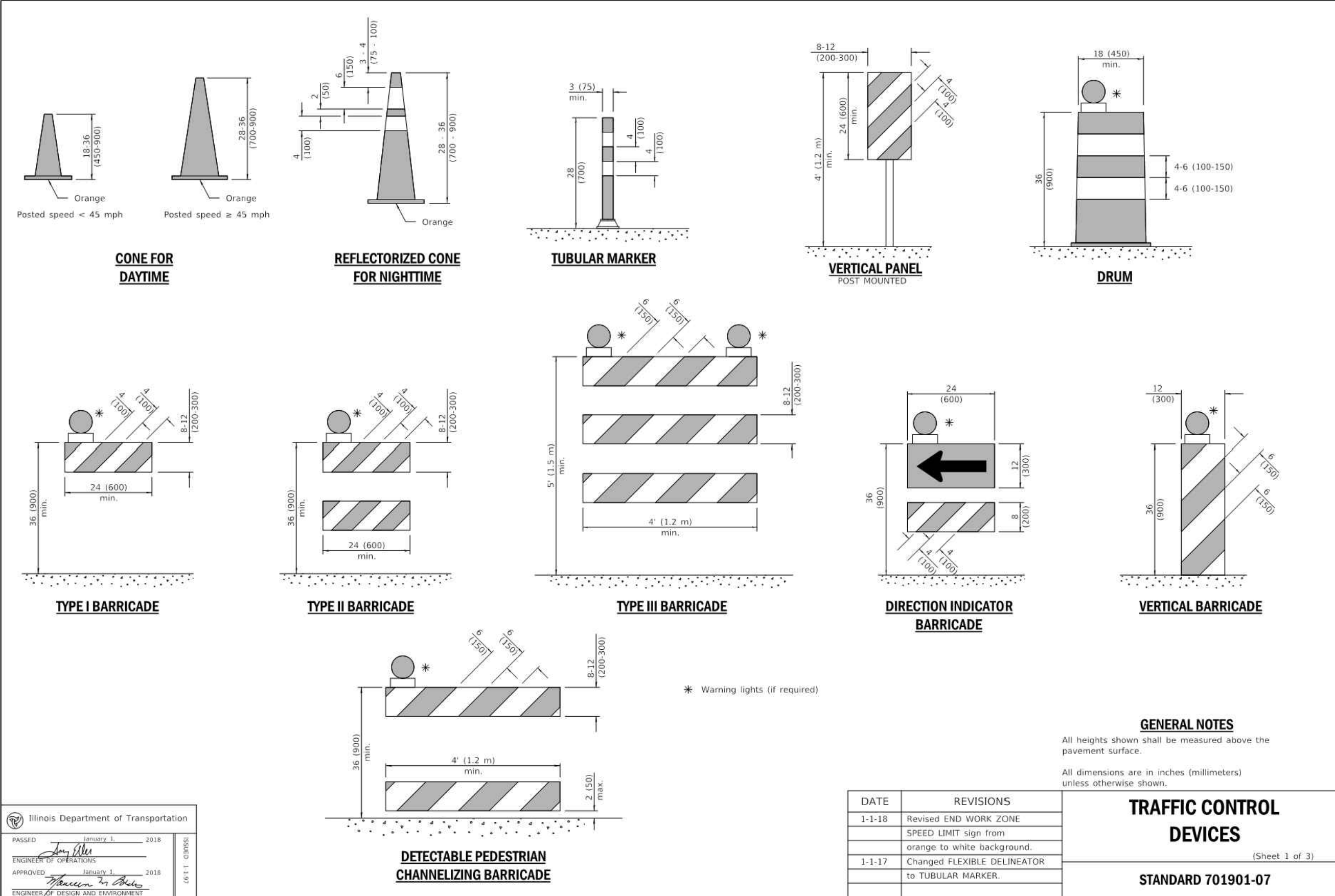
Illinois Department of Transportation  
 PASSED: January 3, 2011  
 ENGINEER OF SPECIAL DISTRICTS: [Signature]  
 APPROVED: January 3, 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT: [Signature]

**TYPICAL APPLICATIONS**

- Marking patches
- Field survey
- String line
- Utility operations
- Cleaning up debris on pavement

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign



**GENERAL NOTES**

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.
1-1-17	Changed FLEXIBLE DELINEATOR to TUBULAR MARKER.

**TRAFFIC CONTROL DEVICES**

STANDARD 701901-07

Illinois Department of Transportation  
 PASSED: January 3, 2018  
 ENGINEER OF SPECIAL DISTRICTS: [Signature]  
 APPROVED: January 3, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT: [Signature]

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
 # 184.001322  
 1391 CORPORATE DRIVE, SUITE 203  
 MCHENRY, IL 60050  
 PHONE: 815.385.1778  
 FAX: 713.965.0044

**KANE AVE. WATERMAIN REPLACEMENT**  
**CLIENT: CITY OF MCHENRY**  
 MCHENRY, ILLINOIS

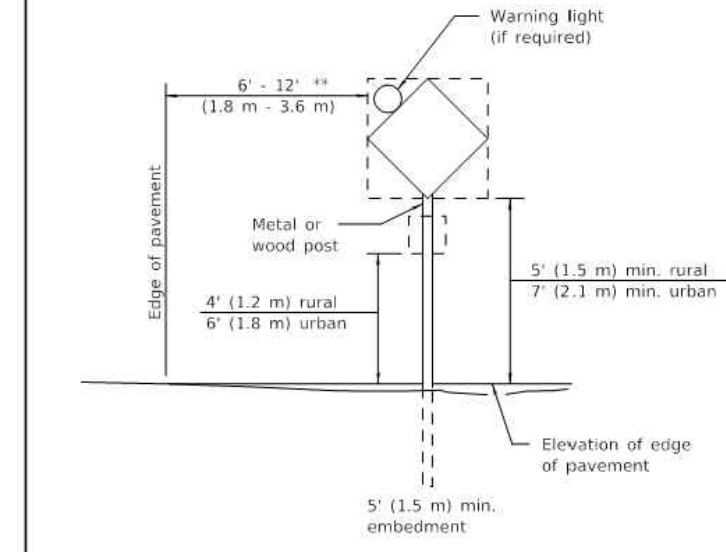
FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
 IDOT - STANDARD CONSTRUCTION DETAILS (1)

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
 0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
 APPROVED: AKL  
 JOB DATE: 11/20/2024  
 JOB NO: 2402108

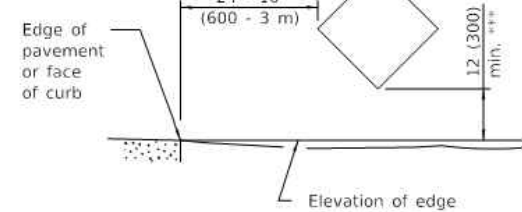
DRAWING  
**C-11**

FOR BIDDING  
 NOT FOR CONSTRUCTION



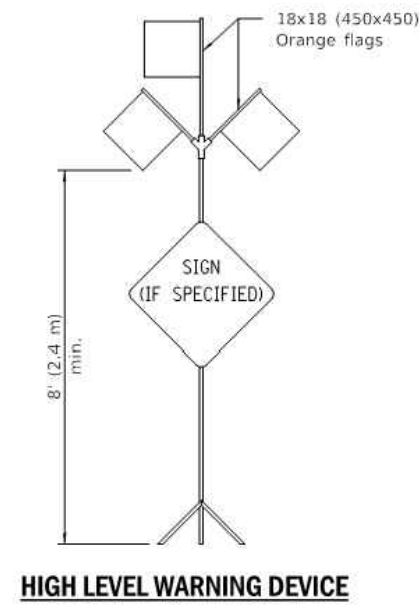
**POST MOUNTED SIGNS**

\*\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



**HIGH LEVEL WARNING DEVICE**

**ROAD CONSTRUCTION NEXT X MILES**  
G20-1104(0)-6036

**END CONSTRUCTION**  
G20-1105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length. ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits. END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m). Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**

WORK ZONE	W21-815(0)-3618
SPEED LIMIT	R2-1-3648
<b>XX</b>	
PHOTO ENFORCED	R10-1108p-3618 ****
SXXX FINE MINIMUM	R2-1106p-3618

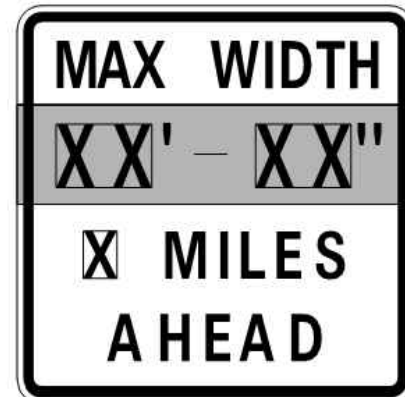
Sign assembly as shown on Standards or as allowed by District Operations.

**END WORK ZONE SPEED LIMIT**  
G20-1103-6036

This sign shall be used when the above sign assembly is used.

**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

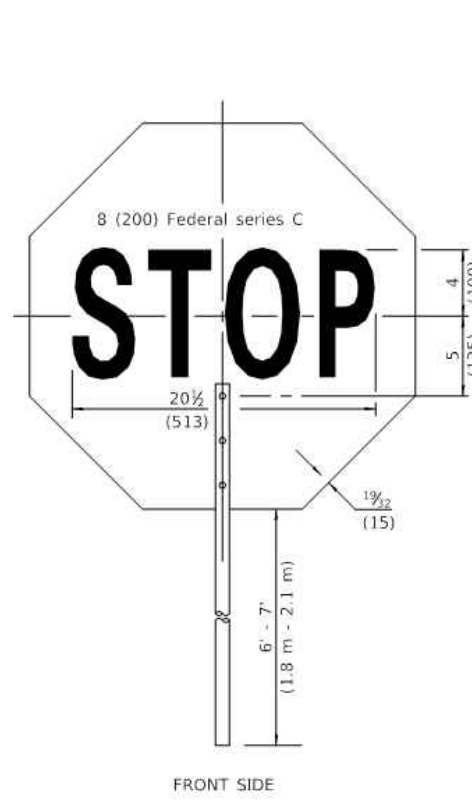
\*\*\*\* R10-1108p shall only be used along roadways under the jurisdiction of the State.



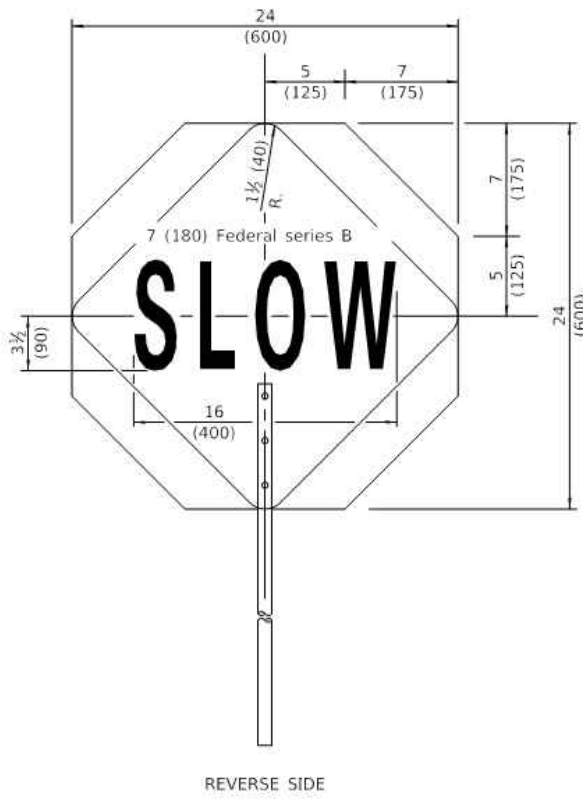
W12-1103-4848

**WIDTH RESTRICTION SIGN**

XX-XX' width and X miles are variable.



FRONT SIDE



REVERSE SIDE

**FLAGGER TRAFFIC CONTROL SIGN**

Illinois Department of Transportation	
PASSED	January 3, 2018
ENGINEER OF DESIGN	John Miller
APPROVED	January 3, 2018
ENGINEER OF DESIGN AND INSTRUMENT	Thomas A. Miller
DATE	01/11/2018

<b>TRAFFIC CONTROL DEVICES</b>	(Sheet 2 of 3)
<b>STANDARD 701901-07</b>	

**ARROW BOARDS**

**TEMPORARY RUMBLE STRIPS**

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

**TRAFFIC CONTROL DEVICES**  
(Sheet 3 of 3)  
**STANDARD 701901-07**

**GENERAL NOTES**

Type III barricades to be width of pavement only. ReflectORIZED striping shall appear on both sides of barricades. Barricades shall be positioned so that stripes slope downward toward the side on which traffic is to pass.

Although not shown, advance warning signs with minimum dimensions of 36x36 (900x900) and black legends on orange reflectORIZED backgrounds shall be utilized where needed.

This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-98	Rev. "R11-1" to "R11-4".
	Rev. 4th General Note.

**TRAFFIC CONTROL DEVICES - DAY LABOR CONSTRUCTION**  
**STANDARD B.L.R. 17-4**

**TWO-LANE, TWO-WAY TRAFFIC, RURAL OPERATIONS EXCEEDING ONE DAYLIGHT PERIOD**

**ILLINOIS DEPARTMENT OF TRANSPORTATION**

PASSED	January 3, 2018
ENGINEER OF DESIGN	John Miller
APPROVED	January 3, 2018
ENGINEER OF DESIGN AND INSTRUMENT	Thomas A. Miller
DATE	01/11/2018

NO.	DATE	BY	REVISION DESCRIPTION

ILLINOIS DESIGN FIRM  
# 184.001322  
1391 CORPORATE DRIVE, SUITE 203  
MCHEHRY, IL 60050  
PHONE: 815.365.1778  
FAX: 713.965.0044

**KANE AVE. WATERMAIN REPLACEMENT**  
**CLIENT: CITY OF MCHEHRY**  
MCHEHRY, ILLINOIS

FINAL - FOR BIDDING - NOT FOR CONSTRUCTION  
IDOT - STANDARD CONSTRUCTION DETAILS (2)

BAR IS ONE INCH ON OFFICIAL DRAWINGS  
0 1" IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: MPL  
APPROVED: AKL  
JOB DATE: 11/20/2024  
JOB NO: 2402108

DRAWING  
**C-12**

**FOR BIDDING  
NOT FOR CONSTRUCTION**