

**SPECIFICATIONS  
AND  
CONTRACT DOCUMENTS**

**FOR**

**CITY OF GROSSE POINTE WOODS**

**HAMPTON ROAD WATER MAIN AND RESURFACING**

**AEW NO. 0160-0456**

**JANUARY 2023**

**OWNER:**

**CITY OF GROSSE POINTE WOODS  
20025 MACK PLAZA  
GROSSE POINTE WOODS, MICHIGAN 48236**

## **HAMPTON ROAD WATER MAIN AND RESURFACING**

### **CITY OF GROSSE POINTE WOODS**

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## ADVERTISEMENT FOR BIDS

### **CITY OF GROSSE POINTE WOODS, MICHIGAN HAMPTON ROAD WATER MAIN & RESURFACING – MACK TO MARTER AEW PROJECT NO. 0160-0456**

#### RECEIPT OF BIDS

The City of Grosse Pointe Woods will receive sealed bids until **10:00 am local time on Tuesday, February 21, 2023** at the offices of the City Clerk, City of Grosse Pointe Woods, 20025 Mack Plaza, Grosse Pointe Woods, Michigan 48236 at which time and place all bids will be publicly opened and read aloud.

#### DESCRIPTION OF WORK

The approximate quantities of major items of work involved in this project are as follows:

Water Main, HDPE, DR 11, 8 inch, Pipe Burst	2,941	Ft
Temporary Water Service	1	LSUM
Water Main, DI, 8 inch, Tr Det G	212	Ft
Fire Hydrant Assembly	6	Ea
Water Serv, Modified	129	Ea
HMA, 5EML	960	Ton
HMA, 4EML	820	Ton
Curb and Gutter, Conc, Det F2, Modified	3,600	Ft
Curb and Gutter, Rem	3,700	Ft
Driveway, Nonreinf Conc, 6 inch, Modified	900	Syd
Sewer, CI IV, 12 inch, Tr Det B	394	Ft
Trenching, Modified	38	Sta
Cold Milling Pavt	3,900	Syd
HMA Surface, Rem	5,400	Syd
Dr Structure, 24 inch dia	18	Ea
Dr Structure, 48 inch dia	10	Ea
Aggregate Base, Conditioning	5,000	Syd
Aggregate Base, 6 inch	1,100	Syd
Aggregate Base, 11 inch	625	Syd

together with related appurtenances as well as clean-up and restoration.

#### PLANS AND SPECIFICATIONS

Plans and specifications will be available on **Tuesday, January 31, 2023**, and must be obtained through [www.bidnetdirect.com](http://www.bidnetdirect.com). An electronic, public viewing copy is available on the City of Grosse Pointe Woods website. Bids may be rejected unless made on the forms included with the bidding documents.

### **BID SECURITY**

A certified check, or the included Bid Bond, executed by the bidder and a surety company, payable to the City of Grosse Pointe Woods, in an amount at least equal to five percent (5%) of the bid, shall be submitted with each bid.

### **WITHDRAWAL OF BIDS**

No bid may be withdrawn for a period of sixty (60) calendar days after the receipt of bids.

### **AWARD OF CONTRACT**

The City of Grosse Pointe Woods reserves the right to reject any or all bids and/or to waive any irregularities in bidding. The successful bidder will be required to furnish satisfactory performance, payment, maintenance and guarantee bonds and insurance certificates.

BY: PAUL ANTOLIN  
City Clerk  
City of Grosse Pointe Woods  
20025 Mack Plaza  
Grosse Pointe Woods, Michigan 48236

DATED: JANUARY 2023

# INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACTS

Prepared by



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## INSTRUCTIONS TO BIDDERS

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## **ARTICLE 1 – DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

## **ARTICLE 2 – COPIES OF BIDDING DOCUMENTS**

2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.

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

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

## **ARTICLE 3 – QUALIFICATIONS OF BIDDERS**

3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within five (5) days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:

A. An itemized list of the Bidder's equipment available for use on the proposed Contract.

B. A list of Bidder's key personnel who would be assigned to the Project, including their experience. Additionally, identify the likely project manager and superintendent responsible for making project decisions.

C. A listing of the major parts of the work which are proposed to be sub-let along with reference information for each subcontractor.

D. A proposed construction schedule based upon starting construction within ten (10) days of receiving the Notice to Proceed.

E. Such additional information that will enable the Owner to determine whether or not the Bidder is adequately prepared to fulfill the obligations of the Contract.

3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.

3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.



## **ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER’S SAFETY PROGRAM; OTHER WORK AT THE SITE**

### **4.01    *Site and Other Areas***

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

### **4.02    *Existing Site Conditions***

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
  - 1. The Supplementary Conditions identify:
    - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
    - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
    - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
    - d. technical data contained in such reports and drawings.
  - 2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
  - 3. If the Supplementary Conditions do not identify technical data, the default definition of technical data set forth in Article 1 of the General Conditions will apply.
- B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.
- C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

#### 4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.
- D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

#### 4.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

#### 4.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

### **ARTICLE 5 – BIDDER'S REPRESENTATIONS**

#### 5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary

Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;

- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
- J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

## **ARTICLE 6 – PRE-BID CONFERENCE**

- 6.01 A pre-Bid conference, if any, will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Attendance may be mandatory as stated in the Invitation or Advertisement to Bid. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

## **ARTICLE 7 – INTERPRETATIONS AND ADDENDA**

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda, mailed, delivered, sent via facsimile, or transmitted electronically, to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

## **ARTICLE 8 – BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five (5%) percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within ten (10) days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and exercise its rights under the Bid Bond. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or the bid acceptance period, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

## **ARTICLE 9 – CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, milestones, if any, are to be achieved and the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

## **ARTICLE 10 – LIQUIDATED DAMAGES**

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, if any, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

## **ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS**

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

## **ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.
- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for various portions of the Work.
- If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, without an increase or Bid Price.
- 12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

## **ARTICLE 13 – PREPARATION OF BID**

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder’s name and official address.

- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

#### **ARTICLE 14 – BASIS OF BID**

##### **14.01 *Lump Sum***

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

##### **14.02 *Unit Price***

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

#### **ARTICLE 15 – SUBMITTAL OF BID**

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the Owner's office as identified in the Bid Form.

- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

#### **ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID**

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 16.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 16.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

#### **ARTICLE 17 – OPENING OF BIDS**

- 17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

#### **ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

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

#### **ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT**

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder whose Bid is in the best interests of the Project.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

- B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
  - C. Bid prices will be compared after adjusting for differences in time of Substantial Completion (total number of calendar days to substantially complete the Work) designated by Bidders. The adjusting amount will be determined at the rate set forth in the Agreement for liquidated damages for failing to achieve Substantial Completion, or such other amount that Owner has designated in the Bid Form.
    - 1. The method for calculating the lowest bid for comparison will be the summation of the Bid price shown in the Bid Form plus the product of the Bidder-specified time of Substantial Completion (in Calendar Days) times the rate for liquidated damages (in dollars per day).
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

## **ARTICLE 20 – BONDS AND INSURANCE**

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

## **ARTICLE 21 – SIGNING OF AGREEMENT**

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 10 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.



# **BID FORM**

## **CITY OF GROSSE POINTE WOODS**

### **HAMPTON ROAD WATER MAIN AND RESURFACING**

**AEW Project No. 0160-0456**

**BID SUBMITTED BY:** \_\_\_\_\_  
Company Name

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## ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City Clerk  
City of Grosse Pointe Woods  
20025 Mack Plaza  
Grosse Pointe Woods, Michigan 48236-2397

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

## ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

## ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site, if any, and all drawings of physical conditions relating to existing surface or subsurface structures at the Site, if any, that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and

drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- K. Bidder is aware that the Owner's decision to proceed with the Project is subject to Owner's determination that all legal, financial and grant approvals, conditions and requirements have been received or met and the funding necessary to complete the project is in hand, and that if all of the foregoing has not been received, the Owner may elect not to proceed with the project in which case no bidder shall have a claim of any kind in contract, tort, equity or otherwise, against the Owner.
- L. Bidders acknowledge that Owner retains the unrestricted right not to proceed with the project and to reject all Bids received. In either case, Owner shall not be liable to any Bidder under any theory including contract, tort, equity or otherwise.
- M. Bidder acknowledges that the unexpected presence and location of existing underground utilities and resulting conflicts with such utilities are ordinarily encountered and generally recognized as inherent in subsurface sewer and appurtenant work in areas that have been previously developed.

## **ARTICLE 4 – BIDDER’S CERTIFICATION**

### **4.01 Bidder certifies that:**

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
  - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
  - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

## **ARTICLE 5 – BASIS OF BID (SEE FOLLOWING PAGE)**

**CITY OF GROSSE POINTE WOODS**  
**HAMPTON ROAD WATER MAIN AND RESURFACING**  
**AEW PROJECT NO. 0160-0456**

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Bid Unit Price</u>	<u>Bid Price</u>
1.	_Reimbursed Permit Fees	1,500	Dlr	\$ 1.00	\$ 1,500.00
2.	Mobilization, Max \$55,000	1	LS		
3.	Tree, Rem, 19 inch to 36 inch	3	Ea		
4.	Tree, Rem, 37 inch or Larger	1	Ea		
5.	Tree, Rem, 6 inch to 18 inch	22	Ea		
6.	Dr Structure, Abandon	1	Ea		
7.	Dr Structure, Rem	24	Ea		
8.	Sewer, Rem, Less than 24 inch	432	Ft		
9.	Curb and Gutter, Rem	3,700	Ft		
10.	Pavt, Rem	207	Syd		
11.	Sidewalk, Rem	394	Syd		
12.	Exploratory Investigation, Vertical	16	Ft		
13.	_Driveway, Rem	800	Syd		
14.	_Subgrade Undercutting, Modified	200	Cyd		
15.	_Subgrade Undercutting, Special	100	Cyd		
16.	Erosion Control, Inlet Protection, Fabric Drop	28	Ea		
17.	Aggregate Base, LM	250	Cyd		
18.	Aggregate Base, 6 inch	1,100	Syd		
19.	Aggregate Base, 11 inch	625	Syd		
20.	Aggregate Base, Conditioning	5,000	Syd		
21.	Maintenance Gravel	250	Ton		
22.	_Trenching, Modified	38	Sta		
23.	Sewer, Cl IV, 12 inch, Tr Det B	394	Ft		
24.	_Post-TV Sewer Laterals	62	Ea		
25.	_Pre-TV Sewer Laterals	62	Ea		
26.	_Sanitary Lead Repair	5	Ea		
27.	_Sewer Bulkhead, 10 inch	1	Ea		
28.	Dr Structure Cover, Adj, Case 1	18	Ea		

**CITY OF GROSSE POINTE WOODS  
HAMPTON ROAD WATER MAIN AND RESURFACING  
AEW PROJECT NO. 0160-0456**

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Bid Unit Price</u>	<u>Bid Price</u>
29.	Dr Structure Cover, Adj, Case 2	1	Ea		
30.	Dr Structure, 24 inch dia	18	Ea		
31.	Dr Structure, 48 inch dia	10	Ea		
32.	Dr Structure, Tap, 12 inch	18	Ea		
33.	_ Catch Basin Cover, Restricted, GPW	27	Ea		
34.	_ Combined Manhole Cover, GPW	20	Ea		
35.	_ Dr Structure Trap, 12 inch	19	Ea		
36.	_ External Structure Wrap, 18 inch	45	Ea		
37.	_ Pop-Up Emitter, Storm Drain, Residential	2	Ea		
38.	Pavt, Cleaning	1	LS		
39.	HMA Surface, Rem	5,400	Syd		
40.	Hand Patching	20	Ton		
41.	HMA, 4EML	820	Ton		
42.	HMA, 5EML	960	Ton		
43.	_ Cold Milling Pavt	3,900	Syd		
44.	_ Driveway, Nonreinf Conc, 6 inch, Modified	900	Syd		
45.	_ Driveway, Nonreinf Conc, 8 inch, Modified	60	Syd		
46.	Driveway Opening, Conc, Det M	86	Ft		
47.	_ Curb and Gutter, Conc, Det F2, Modified	3,600	Ft		
48.	Detectable Warning Surface	70	Ft		
49.	Curb Ramp Opening, Conc	84	Ft		
50.	Sidewalk, Conc, 4 inch	2,125	Sft		
51.	Sidewalk, Conc, 6 inch	400	Sft		
52.	Sidewalk, Conc, 8 inch	45	Sft		
53.	Curb Ramp, Conc, 4 inch	325	Sft		
54.	_ Curb Ramp, Conc, 8 Inch	650	Sft		
55.	_ Traffic Control, Minor Street	1	LS		
56.	_ Proposed Trees	25	Ea		

**CITY OF GROSSE POINTE WOODS**  
**HAMPTON ROAD WATER MAIN AND RESURFACING**  
**AEW PROJECT NO. 0160-0456**

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Bid Unit Price</u>	<u>Bid Price</u>
57.	Sodding	2,800	Syd		
58.	Topsoil Surface, Furn, 3 inch	2,800	Syd		
59.	Water, Sodding/Seeding	55	Unit		
60.	_Staking First Row of Sod	3,000	Ft		
61.	Gate Valve, 8 inch	4	Ea		
62.	Gate Well, Abandon	1	Ea		
63.	Gate Well, Rem	3	Ea		
64.	Hydrant, Rem	6	Ea		
65.	Water Main, 8 inch, Cut and Plug	1	Ea		
66.	Water Main, DI, 8 inch, Tr Det G	212	Ft		
67.	Water Serv	3	Ea		
68.	Water Serv, Long	3	Ea		
69.	Gate Well, 60 inch dia	4	Ea		
70.	Water Shutoff, Adj, Case 2	1	Ea		
71.	_Irrigation Pipe	400	Ft		
72.	_Water Main, HDPE, DR 11, 8 inch, Pipe Burst	2,941	Ft		
73.	_Fire Hydrant Assembly	6	Ea		
74.	_Gate Well Cover, GPW	4	Ea		
75.	_Sprinkler Head	40	Ea		
76.	_Sprinkler Head, Adj	5	Ea		
77.	_Water Main Connection, 8 inch	2	Ea		
78.	_Water Serv, Modified	129	Ea		
79.	_Water Serv, Special	5	Ea		
80.	_Temporary Water Service	1	LS		
81.	_Audio Visual Record of Construction Area	1	LS		
82.	_Rubbish Pickup	1	LS		
				<b>Total of All Bid Prices</b>	<b>\$</b>



Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

#### **ARTICLE 6 – TIME OF COMPLETION**

- 6.01 The Work will be substantially completed on or before September 30, 2023, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before October 15, 2023.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

#### **ARTICLE 7 – ATTACHMENTS TO THIS BID**

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. Statement of Qualifications Sheet;
  - C. Project Reference; and
  - D. Subcontractor Listing.

#### **ARTICLE 8 – DEFINED TERMS**

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

## ARTICLE 9 – SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By: *[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_

*(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

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

Attest: *[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_

Submittal Date: \_\_\_\_\_

Address for giving notices: \_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Contact Name and e-mail address: \_\_\_\_\_

\_\_\_\_\_

Bidder's License No.: \_\_\_\_\_

*(where applicable)*

## BID BOND

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

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

City of Grosse Pointe Woods  
20025 Mack Plaza  
Grosse Pointe Woods, Michigan 48236

BID

Bid Due Date:

Description: Hampton Road Water Main and Resurfacing  
AEW Project No.: 0160-0456

BOND

Bond Number:

Date:

Penal sum \_\_\_\_\_ \$ \_\_\_\_\_  
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

**BIDDER**

**SURETY**

\_\_\_\_\_  
Bidder's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature (Attach Power of Attorney)

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

*Note: Addresses are to be used for giving any required notice.*

*Provide execution by any additional parties, such as joint venturers, if necessary.*

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder any difference between the total amount of Bidder's Bid and the total amount of the Bid of the next lowest, responsible Bidder that submitted a responsive Bid as determined by Owner for the work required by the Contract Documents, provided that:
  - 1.1 If there is no such next Bidder, and Owner does not abandon the Project, then Bidder and Surety shall pay to Owner the penal sum set forth on the face of this Bond, and
  - 1.2 In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the face of this Bond.
  - 1.3 Recovery under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
  - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
  - 3.2 All Bids are rejected by Owner, or
  - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

## STATEMENT OF QUALIFICATIONS

Bidder must answer all questions. If more space is needed to complete a question, attach a separate sheet. Bidder may submit any additional information.

Name: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

\_\_\_\_\_

Number of years operating under your present name: \_\_\_\_\_

Bonding Capacity: \_\_\_\_\_

Bonding Company: \_\_\_\_\_ Phone: \_\_\_\_\_

General nature of work performed by your company \_\_\_\_\_

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

### KEY PERSONNEL:

<i>Name</i>	<i>Position</i>	<i>Years Experience</i>	<i>Years with Company</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

### MAJOR EQUIPMENT:

<i>Equipment</i>	<i>Manufacturer</i>	<i>Model No.</i>	<i>No.</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CURRENT PROJECTS UNDER CONTRACT:

<i>Project Name</i>	<i>Location</i>	<i>Contract Amt</i>	<i>Completion Date</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Additional information that may be pertinent to demonstrate your ability to complete this project.

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

Has your company defaulted on a contract?

\_\_\_\_\_

If yes, where and why?

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

I hereby certify that the above answers are correct and true.

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

Number of additional sheets attached\_\_\_\_\_

**PROJECT REFERENCES**

Bidder has completed the following projects in the past 5 years of similar size and scope to this project.

Project:		Project:	
Owner:		Owner:	
Contact Person:		Contact Person:	
Phone:		Phone:	
Contract Amount:		Contract Amount:	
Date Completed:		Date Completed:	
Project:		Project:	
Owner:		Owner:	
Contact Person:		Contact Person:	
Phone:		Phone:	
Contract Amount:		Contract Amount:	
Date Completed:		Date Completed:	
Project:		Project:	
Owner:		Owner:	
Contact Person:		Contact Person:	
Phone:		Phone:	
Contract Amount:		Contract Amount:	
Date Completed:		Date Completed:	

## SUBCONTRACTOR LISTING

Bidder agrees to use the following Subcontractors for the performance of the work of their respective trades unless otherwise approved in writing by the Owner prior to signing of the Contract. Bidder is aware of the Subcontract Provisions.

<i><b>PORITION OF WORK</b></i>	<i><b>NAME, ADDRESS &amp; PHONE NO. OF CONTRACTOR</b></i>	<i><b>APPROXIMATE DOLLAR VALUE OF SUBCONTRACT</b></i>
<hr/>	Name: <hr/>	
	Address: <hr/>	<hr/>
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	Phone: <hr/>	
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<hr/>	Name: <hr/>	
	Address: <hr/>	<hr/>
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**AGREEMENT  
BETWEEN OWNER AND CONTRACTOR FOR  
CONSTRUCTION CONTRACT (STIPULATED PRICE)**

Prepared by



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**AGREEMENT  
BETWEEN OWNER AND CONTRACTOR  
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)**

THIS AGREEMENT is by and between City of Grosse Pointe Woods, 20025 Mack Plaza Drive  
Grosse Pointe Woods, Michigan 48236 ("Owner") and  
\_\_\_\_ ("Contractor").

**ARTICLE 1 - WORK**

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Approximately 0.6 miles of 8" HDPE water main replacement by open cut installation methods from Mack Avenue to Marter Road including water service transfers, connections, and other related appurtenances. The work also includes asphalt road reconstruction with concrete curb and gutter for half the width of the road, and asphalt resurfacing of the other half of the road. The work includes tree removal and replacement, new drive approaches, ROW grading, and sod restoration as well as other related road and water main items of work.

**ARTICLE 2 –THE PROJECT**

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:
- City of Grosse Pointe Woods  
Hampton Road Water Main and Resurfacing  
AEW Project No. 0160-0456

**ARTICLE 3 - ENGINEER**

- 3.01 The Project has been designed by Anderson, Eckstein and Westrick, Inc.
- 3.02 The Owner has retained Anderson, Eckstein and Westrick, Inc. ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

## ARTICLE 4 - CONTRACT TIMES

### 4.01 Time of the Essence

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

### 4.02 Contract Times: Dates

- A. The Work will be substantially completed on or before September 30, 2023, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before October 15, 2023.

### 4.03 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. 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):
  - 1. Substantial Completion: Contractor shall pay Owner \$1,500.00 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
  - 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1,500.00 for each day that expires after such time until the Work is completed and ready for final payment.
  - 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

## ARTICLE 5 - CONTRACT PRICE

### 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.
- B. Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities): \_\_\_\_\_.
- C. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

## **ARTICLE 6 - PAYMENT PROCEDURES**

### **6.01 Submittal and Processing of Payments**

- A. Engineer shall prepare recommendations for Payment in accordance with Article 15 of the General Conditions.

### **6.02 Progress Payments; Retainage**

- A. Owner shall make Progress Payments on account of the Contract Price on the basis of Engineer's Recommendation for Payment during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
  - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
    - a. Ninety (90%) percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

### **6.03 Final Payment**

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

## **ARTICLE 7 - INTEREST**

- 7.01 All amounts not paid when due shall bear interest in accordance with the provisions of Act 524 of the Michigan Public Acts of 1980.

## **ARTICLE 8 - CONTRACTOR'S REPRESENTATIONS**

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
  - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
  - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions, if any, at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

## **ARTICLE 9 - CONTRACT DOCUMENTS**

### **9.01 Contents**

- A. The Contract Documents consist of the following:
  - 1. This Agreement (pages 1 to 7, inclusive).
  - 2. Performance bond (pages 1 to 3, inclusive).
  - 3. Payment bond (pages 1 to 3, inclusive).
  - 4. Maintenance and Guarantee bond (pages 1 to 2, inclusive).
  - 5. General Conditions (pages 1 to 66, inclusive).
  - 6. Supplementary Conditions (pages 1 to 9, inclusive).

7. Specifications and Work Schedules as listed in the table of contents of the Project Manual.
  8. Drawings (not attached but incorporated by reference) consisting of 34 sheets with each sheet bearing the following general title: Hampton Road Water Main and Resurfacing, AEW Project No. 0160-0456.
  9. Addenda (numbers \_\_ to \_\_ inclusive).
  10. Exhibits to this Agreement (enumerated as follows):
    - a. Contractor's Bid (pages 1 to 8, inclusive).
  11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    - a. Notice to Proceed.
    - b. Contract Modifications.
    - c. Contract Notifications.
    - d. Work Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

## **ARTICLE 10 – MISCELLANEOUS**

### **10.01 Terms**

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

### **10.02 Assignment of Contract**

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is 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.

### **10.03 Successors and Assigns**

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

#### 10.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

#### 10.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
  - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### 10.06 Other Provisions

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.



IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on \_\_\_\_\_ (which is the Effective Date of the Contract).

OWNER: CITY OF GROSSE POINTE WOODS

CONTRACTOR:

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: Arthur W. Bryant, Mayor

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

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

*(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*

By: \_\_\_\_\_

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

Title: Frank Schulte, City Administrator

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

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

Address for giving notices:

Approved for Signature:

\_\_\_\_\_

By: \_\_\_\_\_

\_\_\_\_\_

Title: Debra Walling, City Attorney

\_\_\_\_\_

Address for giving notices:

License No.: \_\_\_\_\_

*(where applicable)*

City of Grosse Pointe Woods

20025 Mack Plaza Drive

Grosse Pointe Woods, Michigan 48236-2397

*(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)*

## PERFORMANCE BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

City of Grosse Pointe Woods  
20025 Mack Plaza  
Grosse Pointe Woods, Michigan 48236

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):* Hampton Road Water Main and Resurfacing  
AEW Project No. 0160-0456

### BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

**Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.**

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

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

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

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

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

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

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

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

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

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

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

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

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

#### 14. Definitions

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

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

## PAYMENT BOND

CONTRACTOR *(name and address):*

SURETY *(name and address of principal place of business):*

OWNER *(name and address):*

City of Grosse Pointe Woods  
20025 Mack Plaza  
Grosse Pointe Woods, Michigan 48236

### CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):* Hampton Road Water Main and Resurfacing  
AEW Project No. 0160-0456

### BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract):*

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

### SURETY

\_\_\_\_\_  
Contractor's Name and Corporate Seal

\_\_\_\_\_  
Surety's Name and Corporate Seal

By: \_\_\_\_\_  
Signature

By: \_\_\_\_\_  
Signature *(attach power of attorney)*

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

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

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

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

**Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.**

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
  - 5.1 Claimants who do not have a direct contract with the Contractor,
    - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2 Pay or arrange for payment of any undisputed amounts.
  - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the

Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

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

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

## 16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

# MAINTENANCE AND GUARANTEE BOND

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

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

City of Grosse Pointe Woods

20025 Mack Plaza

Grosse Pointe Woods, Michigan 48236

## CONTRACT

Date:

Amount:

Description (Name and Location): Hampton Road Water Main and Resurfacing  
AEW Project No. 0160-0456

## BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Maintenance and Guarantee Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

### CONTRACTOR AS PRINCIPAL

Company:

Signature: \_\_\_\_\_ (Seal)

Name and Title:

### SURETY

\_\_\_\_\_  
(Seal)

Surety's Name and Corporate Seal

By:

Signature and Title

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest:

Signature and Title

### CONTRACTOR AS PRINCIPAL

Company:

Signature: \_\_\_\_\_ (Seal)

Name and Title:

### SURETY

\_\_\_\_\_  
(Seal)

Surety's Name and Corporate Seal

By:

Signature and Title

(Attach Power of Attorney)

Attest:

Signature and Title:



NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that by and under said contract, the above named principal has agreed with the said Owner that for a period of **two years** from the date of payment of Final Estimate, to keep in good order and repair any defect in all the work done under said contract either by the principal or his subcontractors, or his material suppliers, that may develop during said period due to improper materials, defective equipment, workmanship or arrangements, and any other work affected in making good such imperfections, shall also be made good all without expense to the Owner, excepting only such part or parts of said work as may have been disturbed without the consent or approval of the principal after the final acceptance of the work, and that whenever directed so to do by the Owner, by notice serving in writing, either personally or by mail, on the principal at \_\_\_\_\_

OR

its

legal representatives, or successors, or on the surety  
at \_\_\_\_\_

WILL PROCEED at once to make such repairs as directed by said Owner, and in case of failure to do so within one week from the date of such notice, or within reasonable time not less than one week, as shall be fixed in said notice then the said Owner shall have the right to purchase such materials and employ such labor and equipment as may be necessary for the purpose, and to undertake, do and make such repairs and charge the expense thereof to, and receive same from said principal or surety. If any repair is necessary to be made at once to protect life and property, then and in that case, the said Owner may take immediate steps to repair or barricade such defects without notice to the contractor. In such accounting the said Owner shall not be held to obtain the lowest figures for the doing of the work, or any part thereof, but all sums actually paid therefore shall be charged to the principal or surety. In this connection the judgment of said year from the date of payment of Final Estimate, shall keep said work so constructed under said contract in good order and repair, excepting only such part or parts of said work so constructed under said contract in good order and repair, excepting only such part or parts of said work which may have been disturbed without the consent or approval of said principal after the final acceptance of the same, proceed to make repair as in said notice directed, or shall reimburse said Owner for any expense incurred by making such repairs, should the principal or surety fail to do so as hereinbefore specified, and shall fully indemnify, defend and save harmless the said Owner from all suits and actions for party or parties by or from any of the acts or omissions or through the negligence of said principal, servants, agents, or employees, in the prosecution of the work included in said contract, and from any and all claims arising under Workman's Compensation Act, so-called, of the State of Michigan, then the above obligation shall be void, otherwise to remain in full force and effect.

FOR INFORMATION ONLY – NAME, ADDRESS AND TELEPHONE

Surety Agency or Broker

Owner's Representative (engineer or other party)

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. 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, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. ~~*Application for Payment Request*~~—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. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. ~~*Change Order Contract Modification*~~—A document 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, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. **Cut-Off Date - The last date for which constructed work will be considered for compensation in the upcoming Progress Payment. This date will be determined at the Pre-Construction Conference.**
19. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
20. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
21. *Engineer*—The individual or entity named as such in the Agreement.
22. *Field Work Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
23. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, 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 Contract-related funds, real property, or personal property.
26. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
27. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
28. *Notice to Proceed*—A written notice 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.
29. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
30. **Progress Payment – Payments made by the Owner, upon Engineer's recommendation, to the Contractor for the completed portions of the Work.**
31. *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.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
33. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
34. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
35. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
36. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
37. *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~~ Progress Payment.

38. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
39. *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, and such other lands furnished by Owner which are designated for the use of Contractor.
40. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
41. *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.
42. *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.
43. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *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 a Subcontractor.
46. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
47. *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 but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.

49. *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; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 *Terminology*

- A. The words and terms discussed in the following paragraphs 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 Article 10 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 15.03 or 15.04).
- 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. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- 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. *Bonds*: 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 Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### 2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

### 2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), 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;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values (if requested) 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.

2.04 *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 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing ~~Application for Payment~~ Progress Payments, electronic or digital transmittals, 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 and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. **Within 10 days following the Pre-Construction Conference, the Contractor shall make any corrections and adjustments and resubmit the schedules. No progress payments shall be made to the Contractor until acceptable schedules are submitted to the 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 the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.

- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

### **ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, 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.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

#### **3.02 *Reference Standards***

- A. Standards Specifications, Codes, Laws and Regulations
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, 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, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract 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, reference standard, 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 part of the Contract Documents prepared by or for Engineer. 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 part of the Contract Documents prepared by or for Engineer.

#### **3.03 *Reporting and Resolving Discrepancies***

- A. *Reporting Discrepancies:*
  - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to



applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or 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) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) 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 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
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 part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); 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).
2. **The provisions of the Contract Documents, written and prepared by or for the Engineer shall take the following order of precedence in resolving conflicts, errors, ambiguities, or discrepancies between such provisions of the Contract Documents:**
  - a. **Agreement**
  - b. **Addenda**
  - c. **Special Provisions**
  - d. **Project Plans and Drawings**
  - e. **Standard Detail Sheets**
  - f. **Supplementary Specifications**
  - g. **Standard Specifications**
  - h. **General Requirements**
  - i. **Supplementary Conditions**
  - j. **General Conditions**

### 3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers 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 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; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- 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.

## ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

### 4.01 *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 Contract 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 Contract. ~~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 Contract, whichever date is earlier.~~

#### 4.02 *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 such date.

#### 4.03 *Reference Points*

- A. **Owner shall provide engineering surveys to establish reference points, benchmarks, and alignment and grade stakes for construction which, in the Engineer's judgment, are necessary to enable Contractor to proceed with the work. Contractor shall be responsible to preserve and protect the reference points, benchmarks, and alignment and grade stakes during the work. Reference points, benchmarks, and alignment and grade stakes damaged, destroyed, removed, or disturbed by the Contractor will be reestablished by the Engineer at the Contractor's expense.**

#### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 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 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. 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, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, 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 Times and Contract Price. 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.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. 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. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  - 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;

2. abnormal weather conditions;
  3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
  4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
  - E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
  - F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
  - G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

## **ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *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.
- B. **DELETED**
- 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. **Contractor shall provide written evidence from the Property Owner, allowing the use of additional lands.**

### **5.02 *Use of Site and Other Areas***

- A. *Limitation on Use of Site and Other Areas:*
  1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.

2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, 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 any such claim, and against all 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 directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent 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 and adjacent areas 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 of 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 structures or land to stresses or pressures that will endanger them.

#### 5.03 *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 adjacent to the Site;
  2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
  3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site 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 5.03 is materially inaccurate; or
  2. is of such a nature as to require a change in the Drawings or Specifications; 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 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, 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 fall within any one or more of the categories described in Paragraph 5.04.A;
  - 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 Paragraph 13.03; and,
  - c. 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.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a 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 otherwise; or
    - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
    - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
  3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a ~~Change Order~~ Contract Modification.
  4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent 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 do not warrant or guarantee 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 information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;

- c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- 3. **“reasonable accuracy,” as referenced in Article 5.05, shall mean that the actual centerline location of the utility is within three (3) feet of the Underground Facility shown on the Plans or marked in the field.**
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then 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 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer’s Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor’s resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer’s findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner’s Statement to Contractor Regarding Underground Facility:* After receipt of Engineer’s written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer’s written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - 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 Paragraph 13.03;
    - c. 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; and



- d. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a ~~Change Order~~ Contract Modification.
3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on 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 removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection

with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) 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 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. 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, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. 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, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. 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 (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. 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 failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this

Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## ARTICLE 6 – BONDS AND INSURANCE

### 6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, 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. 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 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. **Contractor shall also furnish maintenance and guarantee bond in an amount at least equal to the Contract Price. The maintenance and guarantee bond shall remain in effect for two years after the date of the final payment.** ~~Contractor shall also furnish each other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.~~
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond 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 the accompanying bond. **Additionally, all Surety companies providing bonds as required by the Contract shall have an A.M. Best Rating of A-VII or better.**
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then 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 bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

## 6.02 Insurance—General Provisions

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. ~~Upon request by Owner or any other insured,~~ Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, 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.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.

- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
  4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  2. claims for damages insured by reasonably available personal injury liability coverage.
  3. 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.
- C. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Broad form property damage coverage.
  4. Severability of interest.
  5. Underground, explosion, and collapse coverage.
  6. Personal injury coverage.
  7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.

8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability*: Contractor shall purchase and maintain automobile liability insurance against 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. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability*: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance*: Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.
- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; 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 (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
1. include at least the specific coverages provided in this Article.
  2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.

4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
  5. be appropriate for the Work being performed and provide protection from claims that 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.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, 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.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

#### 6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable 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 Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
  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; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; 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. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.

3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
  5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may



come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.

- E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

#### 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, 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 insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the 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 Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, 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 or Contractor as trustee or fiduciary, 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 occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.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, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.

- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, 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 builder's risk insurance and any other property insurance applicable to the Work.

#### 6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by ~~Change Order~~ Contract Modification, if needed.

### ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

#### 7.01 *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.
- 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.

#### 7.02 *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, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays,

Sundays, or legal holidays only with Owner's written consent ~~which will not be unreasonably withheld.~~

#### 7.03 *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, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work 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.

#### 7.04 *"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 Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item 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 is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that 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, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, 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;
      - 3) it has a proven record of performance and availability of responsive service; and
      - 4) it is not objectionable to Owner.
    - 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.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
  - C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
  - D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
  - E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

#### 7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
  1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
  2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
  3. 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:
    - a. shall certify that the proposed substitute item will:
      - 1) perform adequately the functions and achieve the results called for by the general design,
      - 2) be similar in substance to that specified, and
      - 3) be suited to the same use as that specified.

- b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
    - 2) 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
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from that specified, and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Work Order or a proposed ~~Change Order~~ Contract Modification accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. 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.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed ~~Change Order~~ Contract Modification and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. 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 the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. 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.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner,

except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.

- L. 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.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. 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 money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

#### 7.07 *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. **Deleted.**
- 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.

#### 7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, 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 the submission of Contractor's Bid (or when Contractor became bound under a

negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

#### 7.09 *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.

#### 7.10 *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 or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and 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 such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, ~~Change Orders~~ Contract Modifications, Work Change Directives, ~~Field Orders~~ Work Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

#### 7.12 *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, other work in progress, 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 Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
  - 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 7.12.A.2 or 7.12.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 at its expense ~~(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 protection 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 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
  - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

#### 7.13 *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.

#### 7.14 *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.

#### 7.15 *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~~ Work Order will be issued.

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

##### A. *Shop Drawing and Sample Submittal Requirements:*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
  - a. reviewed and coordinated the 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 and equipment 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 of that submittal, and that Contractor approves the 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 set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

##### 1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- 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 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall 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 7.16.D.

3. 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. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

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 or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample 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 7.16.A.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 will document any such approved variation from the requirements of the Contract Documents in a Work Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order ~~Contract Modification~~.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

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.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *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 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;
  6. the issuance of a notice of acceptability by Engineer;
  7. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, 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 7.18.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 7.18.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~~ Contract Modifications, 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.

#### 7.19 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 Laws and Regulations.
- 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, 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, 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 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 8 – OTHER WORK AT THE SITE**

### **8.01 *Other Work***

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. 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.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, 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.

## 8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
  - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
  - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
  - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

## 8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. 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.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) 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 any such claims, and against all 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 damage, delay, disruption, or interference.

## **ARTICLE 9 – OWNER'S RESPONSIBILITIES**

### **9.01 *Communications to Contractor***

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

### **9.02 *Replacement of Engineer***

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

### **9.03 *Furnish Data***

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

### **9.04 *Pay When Due***

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

### **9.05 *Lands and Easements; Reports, Tests, and Drawings***

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

### **9.06 *Insurance***

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

### **9.07 ~~*Change Orders*~~ *Contract Modifications***

- A. Owner's responsibilities with respect to ~~*Change Orders*~~ *Contract Modifications* are set forth in Article 11.



9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *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.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *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 (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- 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.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 *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.

10.02 *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 10.08. 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.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. 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.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, ~~Change Orders~~ Contract Modifications and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. 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, are set forth in Paragraph 7.19.
- C. Engineer's authority as to ~~Change Orders~~ Contract Modifications is set forth in Article 11.
- D. Engineer's authority as to ~~Application for Payment~~ Progress Payments is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, 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 15.06.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 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

### ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a ~~Change Order-Contract Modification~~, a Work Change Directive, or a ~~Field Work Order~~.
- 1. ~~Change Orders-Contract Modification~~:
  - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a ~~Change Order-Contract Modification~~. A ~~Change Order-Contract Modification~~ also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
  - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a ~~Change Order-Contract Modification~~.
- 2. *Work Change Directives*: A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued ~~Change Order-Contract Modification~~, following negotiations by

the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. ~~Field-Work Orders~~: Engineer may authorize minor changes in the Work if the changes 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. Such changes will be accomplished by a ~~Field-Work Order~~ and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a ~~Field-Work Order~~ justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *Owner-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. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a ~~Change Order~~ Contract Modification, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.03 *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, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

#### 11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a ~~Change Order~~ Contract Modification. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.

- B. 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, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
  3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, 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 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent **except no fee shall be applied to equipment**;
    - b. for costs incurred under Paragraph 13.01.B.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 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than ~~27~~25 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - 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 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a ~~Change Order~~ **Contract Modification**. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions

of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.

- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.
  - 1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  - 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
  - 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 *Execution of ~~Change Order~~Contract Modifications*

- A. Owner, **Engineer**, and Contractor shall execute appropriate ~~Change Orders~~ Contract Modifications covering:
  - 1. 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;

2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
  4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a ~~Change Order~~ Contract Modification that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *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.

### ARTICLE 12 – CLAIMS

#### 12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
  3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for

resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.

D. *Mediation:*

1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.
3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.

E. *Partial Approval:* If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.

F. *Denial of Claim:* If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.

G. *Final and Binding Results:* If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a ~~Change Order~~ Contract Modification to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

## ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

### 13.01 *Cost of the Work*

A. *Purposes for Determination of Cost of the Work:* The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:

1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
2. To determine the value of a ~~Change Order~~ Contract Modification, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.

B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work 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 13.01.C, 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, and 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 13.01.
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 6.05), 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 communication 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 that Contractor is required by the Contract Documents to purchase and maintain.

C. *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 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here 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 Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole 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~~ Contract Modification, Change Proposal, Claim, set-off, or other 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 11.04.C.

- E. *Documentation*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, 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.

#### 13.02 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*: Contractor agrees that:
  - 1. 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
  - 2. 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*: 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~~ Contract Modification 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.

#### 13.03 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. Payments to Contractor for Unit Price Work will be based on actual quantities.
- 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. 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 the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price 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;
2. there is no corresponding adjustment with respect to any other item of Work; and
3. Contractor believes that it 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 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

##### **14.01 Access to Work**

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction 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.

##### **14.02 Tests, Inspections, and Approvals**

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with ~~inspection and~~ testing personnel to facilitate required inspections and tests. Timely notice shall be deemed as two (2) working days prior to needing inspection and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- 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, obtaining, and paying for all inspections and tests required:
  1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. 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. Such uncovering shall be at Contractor's expense ~~unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.~~

#### 14.03 *Defective Work*

- A. Contractor's Obligation: It is Contractor's obligation to assure that the Work is not defective.
- B. Engineer's Authority: Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. Notice of Defects: Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. Correction, or Removal and Replacement: Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. Preservation of Warranties: When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. Costs and Damages: In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages 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. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a ~~Change Order~~ Contract Modification. If the parties are unable to agree as

to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then 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, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages 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 pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. 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, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *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, then 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.

#### 14.07 *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, 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, **or an unsafe or emergency situation if declared by the Owner**, then 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 14.07, 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, 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 incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. 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 14.07.

## **ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD**

### **15.01 Progress Payments**

- A. Basis for Progress Payments: The Schedule of Values, if any, established as provided in Article 2 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 during the pay period, as determined under the provisions of Paragraph 13.03 and 15.01B. ~~Progress payments for cost based Work will be based on Cost of the Work completed by Contractor during the pay period.~~
- B. ~~Applications for Payments~~ Payment Requests:
  - 1. **On a monthly basis and in accordance with the schedule established at the Preconstruction Conference, the Engineer will prepare a Construction Estimate for the number of units constructed through the Cut-Off Date. If the Contractor requests payment for 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 Contractor shall submit 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. **The number of units to be paid on each Construction Estimate will be compiled from the Construction Observer's Daily Reports for the work completed.**
  - 3. **The amount of retainage with respect to Progress Payments will be as stipulated in the Agreement.**
  - 4. **Prior to the date established in the Agreement for the progress payments (but not more than once per month), the Engineer will forward to the Owner, with a copy to the Contractor, a Recommendation for Payment accompanied by the Construction Estimate.**
  - 5. **The Contractor, within 14 days of the receipt of the Recommendation of Payment, shall notify the Engineer in writing of any discrepancies. Within seven days of the receipt of the Contractor's notification, the Engineer and the Contractor shall**

**attempt to resolve the discrepancies. Any corrected units of work will be adjusted on subsequent progress payments.**

C. Review of Applications:

1. **Deleted.**
2. Engineer's recommendation ~~of any for 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~~ payment request 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 13.03, 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; 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 money 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 15.01.C.2.
  6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
    - a. the Work is defective, requiring correction or replacement;
    - b. the Contract Price has been reduced by ~~Change Orders~~ Contract Modifications;
    - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
    - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
    - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. Payment Becomes Due:
1. **Thirty (30)** ~~Ten~~ days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. Reductions in Payment by Owner:
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
    - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
    - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
    - c. Contractor has failed to provide and maintain required bonds or insurance;
    - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
    - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
    - f. the Work is defective, requiring correction or replacement;
    - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
    - h. the Contract Price has been reduced by ~~Change Orders~~ Contract Modifications;
    - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;

- j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. 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;
  - l. **The Contract Price has been reduced to offset expenditure of funds for Construction Observations paid by Owner.**
  - m. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, 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, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
  - 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 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

#### 15.03 *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 and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- 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 preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially

complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, ~~review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner.~~ Unless Owner and Contractor agree otherwise in writing, ~~Owner—Contractor~~ shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities ~~upon Owner's sue of occupancy of the work.~~ until final acceptance of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly ~~Applications for Payments~~ payment requests for completed punch list items, following the progress payment procedures set forth above.
- F. 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 punch list.

#### 15.04 *Partial Use or Occupancy*

- 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. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be 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 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work 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 15.03 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 6.05 regarding builder's risk or other property insurance.

#### 15.05 *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, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

##### A. Application for Payment Request:

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, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The request for final Application for Payment payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) 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, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

##### 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 payment request 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 have been fulfilled, Engineer will, within ten days after

receipt of the final ~~Application-request~~ for ~~Payment-payment~~, indicate in writing Engineer's recommendation of final payment and present the ~~Application for Payment~~ final payment request to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. 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 15.07. Otherwise, Engineer will return the ~~Application for Payment~~ payment request 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~~ payment request.

- C. Completion of Work: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. Payment Becomes Due: Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

#### 15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within ~~one~~ two years after the date of final payment ~~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 Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. correct the defective repairs to the Site or such other adjacent areas;
  2. correct such defective Work;
  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 to 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. 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 repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- 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, the correction period hereunder with respect to such Work will be extended for an additional period of ~~one~~ two years after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

### 16.01 *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 written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an ~~adjustment in the Contract Price or an~~ extension of the Contract Times, ~~or both~~, directly attributable to any such suspension. Any ~~Change Proposal seeking such~~ adjustment shall be submitted no later than 30 days after the date fixed for resumption of Work.

### 16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and 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);
  2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, 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 complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.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 the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds 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~~ Contract Modification. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. 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, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *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; and
  3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

**16.04 Contractor May Stop Work or Terminate**

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) 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 16.03.
- 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 are not intended to preclude Contractor from submitting a Change Proposal 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 17 – FINAL RESOLUTION OF DISPUTES**

**17.01 Methods and Procedures**

- A. Disputes Subject to Final Resolution: The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
  2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. Final Resolution of Disputes: For any dispute subject to resolution under this Article, Owner or Contractor may:



1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
2. agree with the other party to submit the dispute to another dispute resolution process; or
3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18 – MISCELLANEOUS**

### **18.01 *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, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
  2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

### **18.02 *Computation of Times***

- A. When any period of time is referred to in the Contract 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.

### **18.03 *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. 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.

### **18.04 *Limitation of Damages***

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

### **18.05 *No Waiver***

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

### **18.06 *Survival of Obligations***

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

N:\NSPE Master Docs\New Revised Specs March 2014\C-700-2002 General Conditions 2014.docx

# SUPPLEMENTARY CONDITIONS

Prepared by



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## ARTICLE 1 – SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract, EJCDC® C-700 (2013 Edition). All provisions that are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

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## ARTICLE 2 – PRELIMINARY MATTERS

- SC-2.01 Delete Paragraphs 2.01 B. and C. in their entirety and insert the following in their place:
- B. Evidence of Contractor's Insurance: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner and Engineer copies of the policies of Insurance (including all endorsements and identification of applicable self-insured retention and deductibles) required to be provided by Contractor in Article 6. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
  - C. Evidence of Owner's Insurance: After receipt from Contractor of the executed counterparts of the Agreement and all required bonds and insurance documentation. Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner under Article 6 (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

## ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

### SC-5.03 *Subsurface and Physical Conditions*

- SC 5.03 Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:
- A. Report dated December 8, 2020, prepared by G2 Consulting Group, LLC of Troy, Michigan, consisting of 46 pages. The Technical Data contained in such report upon whose accuracy Contractor may rely are as indicated in the definition of Technical Data in the General Conditions.

### SC-5.06 *Hazardous Environmental Conditions*

- SC 5.06 Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
- B. Not Used.

## ARTICLE 6 – BONDS AND INSURANCE

### SC-6.03 Contractor's Liability Insurance

SC-6.03 Add the following new paragraph immediately after Paragraph 6.03.J:

- K. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

- 1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	<u>Statutory</u>
Federal, if applicable (e.g., Longshoreman's):	<u>Statutory</u>

#### Employer's Liability:

Bodily injury, each accident	\$ <u>1,000,000</u>
Bodily injury by disease, each employee	\$ <u>1,000,000</u>
Bodily injury/disease aggregate	\$ <u>1,000,000</u>

Foreign voluntary worker compensation	<u>Statutory</u>
---------------------------------------	------------------

- 2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	\$ <u>2,000,000</u>
Products - Completed Operations Aggregate	\$ <u>2,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	\$ <u>1,000,000</u>

- 3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

#### Bodily Injury:

Each person	\$ <u>1,000,000</u>
-------------	---------------------

Each accident \$ 1,000,000

Property Damage:

Each accident \$ 1,000,000

4. Excess or Umbrella Liability:

Per Occurrence \$ 2,000,000

General Aggregate \$ 2,000,000

5. Contractor's Pollution Liability:

Each Occurrence \$ \_\_\_\_\_

General Aggregate \$ \_\_\_\_\_



If box is checked, Contractor is not required to provide Contractor's Pollution Liability insurance under this Contract

6. Additional insureds: in addition to Owner and Engineer, include as additional insureds the following:

1. The City of Grosse Pointe Woods, all employees, elected and appointed officials, boards and commission and volunteers is included as an additionally insured with respect to operations performed by the named insured.
2. Anderson, Eckstein and Westrick, Inc.

*SC-6.04 Owner's Liability Insurance*

SC-6.04 Insert the following after 6.04.B:

- C. In addition to the insurances required under paragraph 6.03, the Contractor shall also provide, at Contractor's expense, Owner's Protective Liability insurance to protect the owner against claims which may arise from operations under the Contract documents, including costs of defense from all claims.
- D. The limits of liability for the insurance required by paragraph 6.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by laws and regulations.
  1. Owner's and Contractor's protective liability:
    - a. General Aggregate: \$2,000,000
    - b. Each Occurrence: : \$1,000,000
    - c. Combined Single Limit: : \$1,000,000



- E. The Owner's and Contractor's Protective Liability Insurance Policy shall include, as additional named and insured, all persons or entities listed in Paragraph SC-6.03.K.6.

*SC-6.05 Property Insurance*

- SC-6.05 Delete paragraph 6.05 in its entirety.

## **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

*SC-7.02 Labor; Working Hours*

- SC-7.02.B Amend the first and second sentences of Paragraph 7.02.B to state "...all Work at the Site shall be performed during the work hours allowed by local ordinances. Contractor will not perform Work on a Sunday or any legal holiday."

## **ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

*SC-10.03 Project Representative*

- SC-10.03 Add the following new paragraph immediately after Paragraph 10.03.A:

- B. The Engineer is the designated Resident Project Representative (RPR) at the Site and will act as the Owner's Representative.
  - 1. General: RPR's dealings in matters pertaining to the Work in general shall be with Owner and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor.
  - 2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values (if any) prepared by Contractor for acceptability.
  - 3. Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings, and prepare and circulate copies of minutes thereof.
  - 4. Liaison:
    - a. Serve as liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.

- b. Assist in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
  - c. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.
- 5. Interpretation of Contract Documents: Report when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer or Owner.
- 6. Shop Drawings and Samples:
  - a. Record date of receipt of Samples and Contractor-approved Shop Drawings.
  - b. Receive Samples which are furnished at the Site by Contractor, and notify Owner of availability of Samples for examination.
  - c. Advise Owner and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved.
- 7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications. Transmit to Contractor in writing decisions as issued by Engineer
- 8. Review of Work and Rejection of Defective Work:
  - a. Conduct on-Site observations of Contractor's work in progress to assist in determining if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Report to Owner and Contractor whenever RPR believes that any part of Contractor's work in progress is defective, will not produce a completed Project that conforms generally to the Contract Documents, or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Owner and Contractor of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

9. Inspections, Tests, and System Start-ups:
  - a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel.
  - b. Observe, record, and report to Owner appropriate details relative to the test procedures and systems start-ups.
10. Records:
  - a. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Contract Modification, Work Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures.
  - b. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, Subcontractors, and major Suppliers of materials and equipment.
  - c. Maintain records for use in preparing Project documentation.
11. Reports:
  - a. Draft and recommend proposed Contract Modifications, Work Change Directives, and Work Orders. Obtain backup material from Contractor.
  - b. Immediately notify Owner of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, force majeure or delay events, damage to property by fire or other causes, or the discovery of any Constituent of Concern or Hazardous Environmental Condition.
12. Payment Requests:

Review payment requests with Contractor for compliance with the established procedure for their submission and forward with recommendations to Owner, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
13. Certificates, Operation, and Maintenance Manuals:

During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Contract Documents to be assembled and furnished by Contractor

are applicable to the items actually installed and in accordance with the Contract Documents.

14. Completion:

- a. Participate in visits to the Site to determine Substantial Completion, assist in the determination of Substantial Completion and the preparation of a punch list of items to be completed or corrected.
- b. Participate in final visit to the Site to determine completion of the Work, in the company of Owner and Contractor, and prepare a final punch list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Owner concerning acceptance and issuance of the notice of acceptability of the work.

C. The RPR shall not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items) without Owner's concurrence.
2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

- B. On this Project, by agreement with the Owner, Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

## **ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK**

### *SC-13.01 Cost of the Work*

SC-13.01.B.5.c Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

- c. Construction Equipment and Machinery:
- 1) Rentals of all construction equipment and machinery, and the parts thereof, 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.
  - 2) The equipment and machinery rental rates shall be computed as outlined in the MDOT “2020 Standard Specifications for Construction”, Section 109.05 “Payment for Contract Revisions”.

### *SC-13.03 Unit Price Work*

SC 13.03.E Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
1. if the extended price of a particular item of Unit Price Work amounts to 10 percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than 20 percent from the estimated quantity of such item indicated in the Agreement; and
  2. if there is no corresponding adjustment with respect to any other item of Work; and
  3. if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may submit a Change Proposal, or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, Owner may make a Claim, seeking an adjustment in the Contract Price.

## **NOTICE TO BIDDERS**

### **GENERAL PROJECT NOTES**

AEW / mav

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#### **CONSTRUCTION STANDARDS**

All work performed under this Contract shall be constructed in accordance with, and by means and methods outlined in the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction except as otherwise modified herein.

The special provisions, specifications and supplemental specifications set-forth hereinafter supplement, or take precedence over, the MDOT 2020 Standard Specifications for Construction as indicated. Unless a Special Provision is provided hereafter, all work shall be performed, and all materials and equipment utilized on this Project, shall meet the requirements of the MDOT 2020 Standard Specifications for Construction.

Traffic shall be maintained throughout the project as provided for in the Plans and in the Special Provision for Maintaining Traffic. Pavement markings, signs and temporary traffic control devices shall be in accordance with the 2011 Michigan Manual on Uniform Traffic Control Devices (MMUTCD).

#### **UTILITY PROTECTION**

Determining the existence and the locations of underground and overhead lines and their protection shall be the responsibility of the Contractor. Utility work referring to the removal, relocation and/or replacement of gas, telephone, and electric power lines, pipes, poles and appurtenances as required, will be done by the forces of the utility company involved. Allowances in the bid for related costs of that work shall be made by the Contractor. CALL MISS DIG. Special consideration shall be given to locating, by hand digging, gas mains and gas services.

Before starting construction, the Contractor shall check with the Utility Companies to ascertain for himself the location of all utilities which might interfere with the work and shall give due notice to all organizations whose utilities will be affected by his operations.

#### **DRAINAGE STRUCTURE COVERS**

The frames and covers of all existing structures that are disturbed during construction are to be salvaged and reused, unless otherwise directed by the Engineer. All existing frames and covers that do not meet current City standards, or are found to be cracked, broken, severely corroded or otherwise unsuitable for reuse shall be replaced with new frames and covers according to the special provision contained herein. The Contractor shall be responsible for storing all removed frames and covers until the City has been given an opportunity to inspect and take possession of any frames covers that they deem salvageable. All frames and covers which are rejected by the City shall be disposed of in a legal manner by the Contractor.

#### **EMERGENCY ACCESS**

The Contractor shall provide access for emergency vehicles and personnel.

**STREET LIGHTING**

All street lights and/or light posts shall be protected by the Contractor. Any damage to the lights and/or light poles or to the buried cables as a result of the Contractor's operations shall be repaired at no additional cost to the Project.

**TREE PROTECTION**

All trees which are found in and around the construction influence area of the work being considered under this project shall be protected from damage during construction. Any tree branches damaged by power equipment during the progression of work shall be neatly trimmed to prevent long term damage. There will be no separate measurement and payment for all work required to protect tree branches from damage or to trim and dress those branches damaged during construction.

**SANITARY FACILITIES**

Necessary sanitary convenience for the use of workmen on the site, properly secluded from public observation, shall be provided and maintained in sanitary condition by the Contractor. The use of sanitary facilities shall be strictly enforced.

**AUDIO VISUAL RECORD OF CONSTRUCTION AREA**

The Contractor shall notify the Engineer a minimum of 72 hours prior to performing video survey.

**SAWCUTTING**

Sawcutting on this Project for the purpose of removing concrete or HMA pavements, walks, drives, etc. shall not be measured and paid for separately. If the materials are found to have not been sawcut to the full depth, the Contractor shall bear the expense of recutting a new joint, if necessary, as directed by the Engineer. All costs for additional removal and replacement beyond what was originally designated will be the responsibility of the Contractor.

**DRIVEWAY ACCESS**

The road shall be constructed using part width construction methods. Construction shall be staged such that no more than half of the residents within the project limits are without driveway access at a given time during construction. Part width construction methods include milling the asphalt surface in two stages to allow for residents to access driveways during stage 1 construction.

**LEAD SERVICES**

Water suppliers are required by the State of Michigan 2018 Lead and Copper Rule Revisions to notify all residents served by lead service lines within 30 days of determining lead service line content. If the Contractor encounters a Lead Service Line, as defined by the State of Michigan 2018 Lead and Copper Rule, the Contractor shall immediately notify both the Owner and the Engineer. The Contractor shall replace all encountered Lead Service Lines according to the special provision contained herein. This project also includes the replacement of various known lead service lines throughout the City. Locations of known lead service lines will be provided by the City.

**NOTICES FOR WATER SHUTOFFS**

The Contractor shall provide notice to residents at least 24 hours in advance of any water service shutoff by use of door-hanger or other method approved by Engineer prior to construction. Door-hangers must be submitted to Engineer prior to construction for review and approval.



## PROGRESS CLAUSE

AEW / rtw

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Start work within ten (10) days after receiving Notice of Award of Contract, or on the date agreed upon with the Engineer. In no case shall any work be commenced prior to receipt of formal notice of award by the Department.

### Completion Dates:

The project work shall be substantially completed and open to traffic on or before September 30, 2023.

The project shall be completed in its entirety including final site restoration and clean-up on or before October 15, 2023.

### Partial Liquidated Damages:

Unexcused Contractor inactivity on controlling items of work shall be limited to five business days. Unexcused Contractor inactivity exceeding five business days will be subject to an assessment of liquidated damages in the amount of \$800 per calendar day until progress of work has been reestablished.

Allowable work hours will be controlled by Local Ordinances. Work hours may only be extended with the prior approval of the Owner. No work shall be performed on Sundays and Holidays, unless special permission is granted by the Owner.

The low Bidder for the work covered by this Proposal will be required to meet with the Engineer and Owner for a preconstruction conference. The scheduled date for this preconstruction conference will be set after a low Bidder has been determined.

The named Subcontractor(s), as listed in the Bid Form, is recommended to be at the preconstruction conference if such items materially affect the work schedule.

Prior to the preconstruction conference, the Contractor shall submit a preliminary Progress Schedule to the Engineer for review.

The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates that these work items will be controlling operations. The substantial and final project completion dates shall also be included in the Project Schedule. If the bidding documents specify other controlling dates, these shall also be included in the Progress Schedule.

The Contractor may be required to attend a public meeting with the Engineer and Owner prior to the start of construction.

Liquidated Damages shall be assessed in accordance with Section 108.10 of the MDOT 2020 Standard Specifications for Construction.

**NOTICE TO BIDDERS**  
**UTILITY COORDINATION**

AEW / mav

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The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the MDOT 2020 Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the MDOT 2020 Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 of the MDOT 2020 Standard Specifications for Construction.

**PUBLIC UTILITIES**

The following Public Utilities may have facilities located within the Right-of-Way:

Detroit Edison Company Jennifer Whitteaker 1 Energy Plaza 1510 Web Detroit, Michigan 48226	(313) 235-9282	Electric
DTE Community Lighting Debra Cain	(313) 618-6996	Street Lights
DTE Gas Company Laurie Forrester 17150 Allen Road Melvindale, Michigan 48122	(313) 389-7261	Gas
Comcast Cable Warren Setty 6095 Wall Street Sterling Heights, Michigan 48312	(586) 883-7253	Cable TV
AT&T Engineering Department 100 South Main Street Room 314 Mount Clemens, Michigan 48043	(586) 466-1024	Telephone & Other Communication
Wayne County Department of Services Pete Milenkovich 29900 Goddard Road Detroit, MI 48241	(734) 955-2154	Traffic Signals

City of Grosse Pointe Woods  
Department of Public Works  
Jim Kowalski  
1200 Parkway  
Grosse Pointe Woods, Michigan 48236

(313) 343-2460

Water / Sewer

For protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall dial 1-800-482-7171 or 811 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the Contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

The owners of existing service facilities that are within grading or structure limits and/or in conflict with the proposed improvements will move them to locations designated by the Engineer or will remove them entirely from the road Right-of-Way. Owners of Public Utilities will not be required by the City to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are extraordinarily dangerous to the Contractor's operation.

The structure and utility information shown on the plans indicates approximate locations and type of facilities as disclosed by the various utility company records. No guarantee is given or implied to the completeness or accuracy thereof.

It shall be the Contractor's responsibility to locate and determine the exact depth of existing utilities and building services prior to construction. Said utility information shall be supplied to the Owner, Engineer, and/or utility companies involved.

There will be no compensation for delays in construction due to the failure of the Contractor to properly coordinate conflicts with utility companies.

Determining the existence and location of underground and overhead utilities and their protection shall be the responsibility of the Contractor. The Contractor shall call MISS DIG. No guarantee is made by the Owner or Engineer as to the completeness and/or accuracy of utility information shown on the plans. Information is from available records and is approximate only.

## **NOTICE TO BIDDERS**

### **PERMITS**

AEW / rtw

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0160-0456

Hampton Road, Goethe Avenue, Charlevoix Avenue, and Marter Road are under the control and jurisdiction of the City of Grosse Pointe Woods.

Mack Avenue is under the control and jurisdiction of Wayne County Department of Public Services (WCDPS).

The Contractor will be required to secure permits from WCDPS for all work in the Mack Avenue ROW, including temporary signs and barricades.

The Soil Erosion and Sedimentation Control Agency for this Project is the Wayne County Department of Environment (WCDOE).

The Contractor will be required to secure an SESC permit from WCDOE for this project.

The Contractor shall be responsible for securing all the necessary Permits for work to be performed under this Contract.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**REIMBURSED PERMIT FEES**

COS:MRB

1 of 1

APPR:RJC:DMG:02-22-21

**a. Description.** This special provision describes the way the reimbursement, for permit fees as stated in section 107 of the Standard Specifications for Construction, will be paid.

**b. Materials.** None specified.

**c. Construction.** None specified.

**d. Measurement and Payment.** All permit fees, as described in section 107 of the Standard Specifications for Construction, will be paid for using the following pay item:

Pay Item	Pay Unit
Reimbursed Permit Fees .....	Dollar

**Reimbursed Permit Fees** includes the reimbursement for the eligible permit fees with supporting receipts or other proof of payment documentation from the Contractor.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
VERTICAL EXPLORATORY INVESTIGATION FOR RELOCATION

COS:MRB

1 of 2

APPR:DMG:NAL:04-30-20  
FHWA:APPR:05-06-20

**a. Description.** When proposed work must be relocated as directed by the Engineer, this special provision is used to compensate the Contractor to locate and expose underground infrastructure and obstructions, such as culverts, sewers and utilities. Perform this work only when conflicts are found in the planned work location. This special provision is not to compensate for the Contractor's responsibilities in subsection 107.12 of the Standard Specifications for Construction.

**b. Materials.** Use Granular Material Class III in accordance with section 902 of the Standard Specifications for Construction for backfill. Use material removed during exploratory investigation for backfill only if approved by the Engineer.

**c. Construction.** The owner of any sewer or utility to be exposed will not take the facilities out of service during the exploratory investigation. Contact utility owners in accordance with subsection 107.12 of the Standard Specifications for Construction.

Advance the exploratory excavation using vacuum excavation, hand digging, conventional machine excavation, or a combination thereof subject to approval of the Engineer. Allow the Engineer access to document the necessary information. If the technique used to advance the excavation causes any damage to the existing facilities, immediately contact the utility owner and cease all work until an alternate method is approved by the Engineer.

Take care to protect the exposed culvert, sewer or utility from damage during construction. The Contractor is responsible for all costs associated with the repair work and out of service time of all broken or damaged existing culverts, sewers or utilities as a result of any action by the Contractor. If the exploratory investigation results in damage to utilities, contact the owner of such utility to coordinate the repair. Repair or replace culvert, sewer or utility, damaged during exploratory excavation, in accordance with the standard specifications and as approved by the Engineer.

Obtain the Engineer's approval before backfilling the excavation. Complete backfilling no later than 24 hours after approval has been given. Backfill in accordance with subsection 204.03.C of the Standard Specifications for Construction. Dispose of excess material in accordance with the standard specifications.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Exploratory Investigation, Vertical.....	Foot

**Exploratory Investigation, Vertical** will be measured by the foot from top of existing grade vertically to the bottom of the excavation for up to a 4-foot maximum diameter hole, or as approved by the Engineer. The excavated depth of each 4-foot maximum diameter hole will be measured separately for payment.

**Exploratory Investigation, Vertical** includes all costs associated with repair or replacement resulting from the Contractor's activities. Providing necessary lane, shoulder and/or sidewalk closures required to perform work will be paid for by other associated items in the contract. Restoration work will be paid for by other associated items.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION  
  
SPECIAL PROVISION  
FOR  
**EROSION CONTROL, INLET PROTECTION, FABRIC DROP**

COS:DMG

1 of 2

APPR:TWK:CP:03-11-20  
FHWA:APPR:03-13-20

**a. Description.** This work consists of furnishing and installing acceptable alternatives to inlet protection devices (devices) listed in the *Soil Erosion and Sedimentation Control Manual* when the pay item Erosion Control, Inlet Protection, Fabric Drop is included in the contract.

This work consists of furnishing, installing, maintaining, disposing of collected material and removing devices at the locations shown on the plans or as directed by the Engineer.

**b. Materials.** The following devices are approved for use as acceptable alternatives:

1. Siltsack Type B, Regular Flow, by ACF Environmental, Inc.
2. Inlet Pro Sediment Bag, Standard Flow, with optional foam deflector by Hanes Geo Components.
3. Dandy Curb Bag, Dandy Bag, Dandy Curb Sack, Dandy Sack, or Dandy Pop by Dandy Products, Inc.
4. Basin Bag, Regular Flow by CSI Geoturf.
5. Flexstorm Catch-It and Flexstorm Pure used with filter bag types FX, FX+, FXO, PC, PC+ or IL.

Ensure provided devices are sized appropriately for the drainage structures in which they will be installed.

**c. Construction.** Install, maintain and remove the devices in accordance with the manufacturer's guidelines. Remove material collected by the devices in accordance with the manufacturer's guidelines or as directed by the Engineer.

Dispose of collected material in accordance with subsection 205.03.P of the Standard Specifications for Construction. Those devices that are no longer needed and have been removed may be reused elsewhere on the project as approved by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Erosion Control, Inlet Protection, Fabric Drop.....	Each



**Erosion Control, Inlet Protection, Fabric Drop** will be paid for as one each for each time the alternate device listed herein is installed, maintained, and removed at a separate location within the project limits.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**QUALITY INDEX FOR PORTLAND CEMENT CONCRETE (FOR LOCAL AGENCY  
PROJECTS ONLY)**

CFS:CPM

1 of 4

APPR:TES:JFS:05-28-20

FHWA:APPR:06-04-20

**a. Description.** This special provision establishes pay factor and price adjustments for Portland cement concrete (PCC) based on Quality Assurance (QA) testing of 28-day compressive strength and fresh concrete air content of PCC. Perform all work in accordance with the standard specifications and this special provision.

**b. Materials.** Mixture requirements will be in accordance with section 1004 of the Standard Specifications for Construction, unless otherwise specified in the contract.

**c. Sampling.** Sampling will be in accordance with subsections 1003.03.H and 1003.03.L of the Standard Specifications for Construction, except as modified herein. A sample is defined as a representative quantity of concrete taken during production which is used to measure the quality characteristics for the concrete. Compressive strength specimens for each sample consist of two cylinders, either 4-inch by 8-inch or 6-inch by 12-inch. A random number will be generated for each respective subplot. The sampling frequency for a production lot is one QA sample per subplot.

See subsection 1003.03.J in the Standard Specifications for Construction for reduced sampling and testing for small incidental quantities.

**d. Quality Index Analysis.** The Engineer's QA test results will be used to determine the pay factor (PF) and price adjustment (ADJ). The Contractor QC test results will be not used for PF and ADJ analysis. The Engineer will complete PF and ADJ analysis within 7 working days after completion of all 28-day compressive strength testing for the represented production lot or quantity of concrete. All values of PF and OLPF in these formulas are decimal, not percent. All values of PF and OLPF are rounded to two decimal places.

**Table 1: Quality Index Parameter Specification Limits**

Quality Characteristic	Specification Limits
Air Content of Fresh Concrete (percent)	5.5 – 8.5
Rejection Limit (percent)	<5.0 or >9.0
Conc. Temp. (deg. F)	45 - 90 at time of placement
Slump (max.) (inch)	See footnotes a through I in Table 1004-1 of the Standard Specifications for Construction
28-day Compressive Strength (psi)	For LSL see Table 2
Rejection Limit - 28-day Compressive Strength	See Table 2

**Table 2: Quality Index Parameter Specification Limits for 28-Day Compressive Strength**

Parameter	Grade of Concrete						
	3000	3500	3500HP	4000	4000HP	4500	4500HP
Lower Specification Limit (psi)	3000	3500	3500	4000	4000	4500	4500
Rejection Limit for an Individual Strength Sample Test Result (psi)	2500	3000	3000	3500	3500	4000	4000

1. Pay Factor for 28-Day Compressive Strength ( $PF_s$ ). (not to exceed 1.00)

$$PF_s = (\text{QA Test Strength}) / \text{LSL}$$

Where:

QA Test Strength = QA 28-day compressive strength sample test result.

LSL = Lower specification limit (see Table 2).

If the tested strength does not meet the rejection limit specified in Table 2, the Engineer will require additional evaluation as described in section e of this special provision.

2. Pay Factor for Air Content of Fresh Concrete ( $PF_{ac}$ ). The pay factor for air content of fresh concrete ( $PF_{ac}$ ) will be in accordance with Table 3.

**Table 3: Air Content of Fresh Concrete Pay Factor ( $PF_{ac}$ )**

Air Content of Fresh Concrete (percent)	Pay Factor ( $PF_{ac}$ )
5.5 – 8.5	1.00
5.0 – 5.4	0.50
Below 5.0	Rejection
8.6 – 9.0	0.75
Above 9.0	Rejection

If the air content of fresh concrete is below 5.0 or above 9.0 percent, the Engineer will elect to do one of the following:

A. Require removal and replacement of the entire quantity of concrete represented by the test with new testing conducted on the replacement concrete and repeat the evaluation procedure.

B. Allow submittal of a corrective action plan for the Engineer's approval. If the Engineer does not approve the plan for corrective action, subsection d.2.A. will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

3. Overall Lot Pay Factor (OLPF). Use the following formula to determine the OLPF and ADJ. The OLPF will not exceed 1.00:

$$\text{OLPF} = (0.60 \times \text{PF}_s) + (0.40 \times \text{PF}_{ac})$$

Where:

$\text{PF}_{ac}$  = Pay factor for Air Content (see Table 3)

4. Price Adjustment (ADJ). Use the following formula to determine the ADJ.

$$\text{ADJ} = (\text{OLPF} - 1)(\text{Price})$$

5. Price Adjustment for Small Incidental Quantities. Price adjustment for 28-day compressive strength deficiencies will be based on test results for the corresponding weekly QA test specimens and the pay factor ( $\text{PF}_s$ ) calculated in accordance with the formula defined in subsection d.1. The price adjustment is calculated by the following equation:

$$(\text{ADJ}) = (\text{PF}_s - 1)(\text{Price})$$

Where:

ADJ = Price adjustment per pay unit to be applied to the quantity represented by the QA test.

$\text{PF}_s$  = Pay Factor for 28-day compressive strength (not to exceed 1.00).

Price = Base price when established for the pay item or the Contractors unit price bid when concrete is included in another pay item without a base price.

**e. Evaluation of Rejectable Concrete.** The Engineer will require additional evaluation to decide what further action may be warranted. Acceptance for air content of fresh concrete will be based on QA test results reported at the time of concrete placement.

If the Engineer determines that non-destructive testing (NDT) is appropriate, this work will be done by the Contractor in the presence of the Engineer within 45 calendar days of concrete placement. All costs associated with this work will be borne by the Contractor. Ensure complete set of non-destructive tests is conducted (in accordance with the respective standard test method) at a minimum three randomly selected locations. If NDT is used to estimate the in-situ strength, a calibrated relationship between the project job mix formula (JMF) under evaluation and the NDT apparatus must have been established prior to NDT testing in accordance with its respective standard test method.

If the 28-day compressive strength QA test results show that the rejection limit (as specified in Table 2) has not been achieved, the quantity of concrete under evaluation will be rejected and the Engineer will require additional evaluation to decide what further action may be warranted.

Propose an evaluation plan and submit it to the Engineer for approval before proceeding. The results from NDT will be used only to decide what further action is required. This determination will be made by the Engineer, as follows:

1. For Non-structural Concrete. If no test result from non-destructive testing falls below the lower specification limit (LSL) 28-day compressive strength, the represented quantity of

concrete under evaluation will remain in place and a pay factor for 28-day compressive strength ( $PF_s$ ) of 1.00 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations in accordance with section d of this special provision.

2. For Structural Concrete (including overhead sign foundations). If no test result from non-destructive testing falls below the lower specification limit (LSL), the represented quantity of concrete under evaluation will remain in place and a pay factor for 28-day compressive strength ( $PF_s$ ) of 0.85 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

3. If one or more of the non-destructive test results fall below the lower specification limit (LSL) 28-day compressive strength, the Engineer may elect to do one of the following:

A. Require removal and replacement of the entire rejected quantity of concrete, including new initial tests for quality index analysis conducted in accordance with section d of this special provision.

B. Allow the Contractor to submit a plan for corrective action, for the Engineer's approval, to address the disposition of the rejected concrete. If the Engineer does not approve the plan for corrective action, subsection e.3.A of this special provision will be applied. All costs associated with plan submittal and corrective action under this subsection will be borne by the Contractor.

C. Allow the in-situ quantity of concrete under evaluation to remain in place and a pay factor ( $PF_s$ ) of 0.50 will be applied for overall lot pay factor (OLPF) and price adjustment (ADJ) determinations will be in accordance with section d of this special provision.

**f. Measurement and Payment.** If a price adjustment is made for reasons included in this special provision, that adjustment will be made using the base price established for the specific item. If a contract unit price requires adjustment for other reasons not described in this special provision, the adjustments will be made using the original unit price and the adjustments will be cumulative.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**DRIVEWAY, REM**

AEW / mav

1 of 1

0160-0456

**a. Description.** This item of work consists of the removal of miscellaneous concrete or HMA drive approaches, or portions thereof, as shown on the plans or as directed by the Engineer.

For the purposes of this Contract, the removal and disposal of existing concrete or HMA drive approaches shall be measured and paid for separately, and not as "Pavt, Rem" or "HMA, Surface, Rem."

This item of work includes the complete removal and disposal of existing concrete or HMA driveways, or portions thereof, regardless of any variable thickness or varying material(s) that may be encountered.

**b. Materials.** None specified.

**c. Construction.** All work shall be performed in accordance with Section 204 of the MDOT 2020 Standard Specifications for Construction.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item.

Pay Item	Pay Unit
Driveway, Rem .....	Square Yard

Measurement and payment for this item of work includes all necessary full depth sawcutting to facilitate the removal of driveways and to create a straight edge along the adjacent sidewalk or remaining pavement edge.

CITY OF GROSSE POINTE WOODS  
SPECIAL PROVISION  
FOR  
**SUBGRADE UNDERCUTTING, MODIFIED**

AEW / mav

1 of 1

0160-0456

**a. Description.** This work consists of removing and replacing frost heave textured materials or other unsuitable subgrade materials in areas where the mainline pavement, aggregate base and miscellaneous drive approaches and sidewalks are being constructed.

This work shall be performed in accordance with Section 205 of the MDOT 2020 Standard Specifications for Construction except as modified below.

**b. Materials.** The backfill material shall be 21AA dense graded aggregate meeting the requirements of Section 902 of the MDOT 2020 Standard Specifications for Construction.

**c. Construction.** Perform work in accordance with Section 205.03.E of the MDOT 2020 Standard Specifications for Construction, as directed by the Engineer. Compact the backfill in lifts, not exceeding 10 inches. Compact the backfill to a minimum of 95% of the maximum dry density of the material based on the Modified Proctor (ASTM D1557).

Furnish load tickets for all materials used to fill undercut voids in accordance with Section 302.03 of the MDOT 2020 Standard Specifications for Construction.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

<b>Pay Item</b>	<b>Pay Unit</b>
Subgrade Undercutting, Modified .....	Cubic Yard

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
SUBGRADE UNDERCUTTING, SPECIAL

AEW / mav

1 of 1

0160-0456

**a. Description.** This work consists of removing and replacing frost heave textured materials or other unsuitable subgrade materials in areas where the depth of subgrade undercutting exceeds 12" below the proposed aggregate base.

**b. Materials.** Backfill material shall be 1" x 3" open-graded aggregate meeting the requirements of Section 902 of the MDOT 2020 Standard Specifications for Construction as modified herein. Crushed concrete shall be free of all steel, joint paper, and all other deleterious material.

Material furnished shall meet the following physical gradation requirements:

SIEVE ANALYSIS (MTM 109) TOTAL PERCENT PASSING						
3 in	2.5 in	2 in	1.5 in	1 in	¾ in	½ in
100		95-100		15-40		0-5

**c. Construction.** Perform work in accordance with Section 205 of the MDOT 2020 Standard Specifications for Construction and as directed in the field by the Engineer. The depth of special undercut and backfill shall be at least 18 inches, and shall not exceed 22 inches below the proposed aggregate base. Stabilize undercut area by "Tracking" the 1" x 3" aggregate into the subgrade. The placement of a geogrid or a geotextile separator may be required as directed by the Engineer to stabilize the area. Backfill the top 12 inches of the undercut area with material as specified in the Subgrade Undercutting, Modified item of work.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

**Pay Item**

**Pay Unit**

Subgrade Undercutting, Special ..... Cubic Yard

Load tickets shall be furnished for all materials used to fill undercut voids in accordance with Section 302.03 of the MDOT 2020 Standard Specifications for Construction.

Undercut and backfill of material within 12 inches below the proposed aggregate base will be measured and paid for separately as Subgrade Undercutting, Modified.



## CITY OF GROSSE POINTE WOODS

### SPECIAL PROVISION FOR PRE/POST-TV SEWER LATERAL

AEW/rtw

1 of 2

0160-0456

**a. Description.** This work consists of televising sanitary sewer service laterals that cross the proposed water main installation before and after construction to identify the depth and verify condition. The Contractor performing the work must have a minimum of 5 years of experience televising sewer laterals. The investigation shall be performed by a NASSCO Pipeline Assessment and Certification Program (PACP©) certified operator.

**b. Materials.** Perform work with radial view camera and lateral inspection system or lateral camera launcher appropriate for the configuration of the existing sewer system and location of water main.

**c. Construction.** A main sewer television camera is used to position the lateral camera launcher. The lateral sewer camera is used to inspect a maximum of 40 linear feet of the lateral. Actual footage inspection may vary depending on several factors such as, but not limited to, the conditions of the lateral within the main sewer, the condition of the lateral pipe structure, the location of bends and other fittings within the lateral, roots within the lateral, and other limitations of the lateral camera launcher itself. The television inspection of the lateral should be from inside the main line sewer up into the lateral. However, inspection from cleanouts, excavations, or other access points is allowed.

Inspection of laterals shall be digitally recorded in color. The lateral connection within the main sewer is viewed with the main sewer camera and recorded with the lateral inspection recording. A written report of the condition of each lateral is prepared at the time of the inspection. This report contains: identification and approximate location of any pipe defects; approximate location and estimated quantity of inflow/infiltration; root intrusion; and the type and condition of the lateral connection. The report shall be produced using C.C.T.V. inspection software provided by a NASSCO PACP© certified vendor. Formatting and layout, i.e., observations and defect codes, shall be NASSCO PACP© standard. All reports shall be delivered to the Engineer no later than 30 (thirty) days after completion of the Project.

The pre-construction investigation for each lateral shall include at a minimum:

- Depth of lateral where it crosses the existing and/or proposed water main alignment
- Photograph of lateral tap at the main
- Photograph of the lateral where it crosses the existing and/or proposed water main alignment

The post-construction investigation for each lateral shall include at a minimum:

- Photograph of the lateral where it crosses the existing and/or proposed water main alignment

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Pre-TV Sewer Lateral .....	Each
Post-TV Sewer Lateral .....	Each

Measurement and payment will be made for each lateral investigation meeting the requirements contained herein. Any laterals that cannot be televised will not be eligible for payment.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**TRENCHING, MODIFIED**

AEW / rtw

1 of 1

0160-0456

**a. Description.** This work consists of excavation and preparing subgrade for the proposed aggregate base and curb and gutter in accordance with section 307 of the Standard Specifications for Construction, except as modified by the details on the plans and this special provision.

**b. Materials.** Provide embankment materials in accordance with subsection 902 of the Standard Specifications for Construction.

**c. Construction.** Perform the excavation and subgrade preparation in accordance with subsection 307.03.A of the Standard Specifications for Construction, except as modified by the details on the plans and this special provision.

Excavate the trench to the minimum width necessary to construct the proposed curb and gutter section.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for in accordance with section 307 of the Standard Specifications for Construction at the contract unit price using the following pay item, except as modified below:

**Pay Item**

**Pay Unit**

Trenching, Modified .....Station

**Trenching, Modified** includes the cost of all embankment and compaction relative to the areas behind the curb and gutter section.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**SANITARY LEAD REPAIR**

AEW / cad

1 of 1

0160-0456

**a. Description.** This item of work consists of the repair and/or replacement of miscellaneous short sections of existing sanitary service leads that may be encountered while installing the proposed water main.

**b. Materials.** The pipe material for replacing a short section of the sewer shall be smooth polyvinyl-chloride (PVC) pipe, with a minimum thickness of SDR-23.5.

**c. Construction.** All work shall be performed in accordance with Sections 402 of the 2020 MDOT Standard Specifications for Construction, as detailed on the plans, and as directed by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

**Pay Item**

**Pay Unit**

Sanitary Lead Repair ..... Each

CITY OF GROSSE POINTE WOODS  
SPECIAL PROVISION  
FOR  
**EXTERNAL STRUCTURE WRAP, 18 INCH**

AEW / mav

1 of 1

0160-0456

**a. Description.** This work consists of placing an external, heat-shrinkable manhole sealing system of the specified size around all structures that are exposed during construction and where designated by the Engineer.

**b. Materials.** The following products (or approved equal) will be considered for use:

1. Infi-Shield
2. Wrapid-Seal
3. Cretex

**c. Construction.** Install external structure seal in accordance with the manufacturer's specifications and detailed installation guides.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

Pay Item	Pay Unit
External Structure Wrap, 18 inch .....	Each

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
DR STRUCTURE TRAP, \_ INCH

AEW / mav

1 of 1

0160-0456

**a. Description.** This work consists of furnishing and installing High Density Polyethylene trap assemblies in the first catch basin upstream of the connection to a combined sewer.

**b. Materials.** Provide High Density Polyethylene traps manufactured by Ground Water Rescue, Inc. (The Eliminator) or approved equal. Provide traps of the size indicated below:

Outlet Pipe Diameter	Nominal Trap Size
6" or less	N/A
8"	8"
10"	10"
12"	12"
15"	15"
18"	18"
21" and greater	N/A

**c. Construction.** Install the traps in accordance with the manufacturer's installation instructions, and as directed by the Engineer in the field.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

Pay Item	Pay Unit
Dr Structure Trap, 12 inch .....	Each

CITY OF GROSSE POINTE WOODS  
SPECIAL PROVISION  
FOR  
**POP-UP EMITTER, STORM DRAIN, RESIDENTIAL**

AEW / mav

1 of 1

0160-0456

**a. Description.** This item of work is for the installation of a pop-up storm drain emitter for residential applications.

**b. Materials.** Materials provided for this item shall be one of the following or any approved alternative:

StormDrain Plus:  
Part No. FSD-343-EL or FSD-344-EL  
Or  
NDS:  
Part No. 321 or 421 or 430  
Or  
Rain Bird:  
Model DPUV3E or DPUV4E or DPUV4EHUB

**c. Construction.** Remove the existing residential storm drain from curb to 1' from the face of the sidewalk. Excavate to a depth of 1' below the pop-up emitter and backfill with the same material used in the underdrain trench. Drill a 3/4" hole through the elbow or remove plug (if present) to allow for the pop-up emitter to drain. Install the pop-up emitter per manufacturer's instructions and as shown on the plans.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

<b>Pay Item</b>	<b>Pay Unit</b>
Pop-Up Emitter, Storm Drain, Residential.....	Each

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
STRUCTURE COVERS

AEW / mav

1 of 1

0160-0456

**a. Description.** This work consists of furnishing and installing new covers, including frames and grates, on new or existing structures as required.

**b. Materials.** New structure covers shall be as follows:

<b>STRUCTURE TYPE</b>	<b>COVER TYPE</b>
Catch Basins (pavement)	EJ #5080 Frame Type "M3" Cover with 4 openings (Restricted) Type "M1" Cover with 30 openings (Open)
Storm Manholes	EJ #1040 or #1045 Frame GPW Embossed Storm Manhole Cover
Sanitary/Comb Manholes	EJ #1040 or #1045 Frame GPW Embossed Sanitary Manhole Cover
Water Gate Well	EJ #1040 or #1045 Frame GPW Embossed Water Gate Well Cover

**c. Construction.** Perform work in accordance with Section 403 of the 2020 MDOT Standard Specifications for Construction. #1045 frames will be utilized when adjusting existing structures, and #1040 frames will be utilized when constructing new structures or as directed by engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

<b>Pay Item</b>	<b>Pay Unit</b>
Catch Basin Cover, GPW .....	Each
Catch Basin Cover, Restricted, GPW .....	Each
Combined Manhole Cover, GPW.....	Each
Storm Manhole Cover, GPW .....	Each
Gate Well Cover, GPW.....	Each



CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**HMA APPLICATION ESTIMATE**

AEW / rtw

1 of 1

0160-0456

**a. Description.** This work consists of furnishing and placing various Hot Mixed Asphalt (HMA) paving materials on a prepared base.

**b. Materials.** HMA mixtures shall be prepared in accordance with Division 5 of the 2020 MDOT Standard Specifications for Construction.

Top course material for HMA resurfacing shall be:

HMA, 5EML applied at a rate of 220 lbs/square yard.

Leveling course material for HMA resurfacing shall be:

HMA, 4EML applied at a 330 lbs/square yard.

The Performance Grade Binder for all HMA mixtures shall be PG 58-22.

The required Aggregate Wear Index (AWI) for top course HMA mixtures on this project is 220 min.

Bond coats shall be SS-1h and shall be applied at a rate of 0.05 gal/square yard between lifts.

**c. Construction.** The work shall be performed in accordance with Section 501 of the 2020 MDOT Standard Specifications for Construction.

**d. Measurement and Payment.** All HMA mixtures shall be measured and paid by the ton.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
COLD MILLING PAVEMENT

AEW / mds

1 of 1

0160-0456

**a. Description.** This work consists of cold milling existing pavement surface (HMA, Concrete, or both) to the depth and cross section shown on the plans, and as directed by the Engineer.

**b. Equipment.** Provide equipment in accordance with Section 501.03.A.1. The cold-milling equipment used must be capable of removing the chips from the pavement and preventing dust from escaping into the air.

**c. Construction.** Perform work in accordance with subsection 501.03.C.5 and the additional provisions specified herein.

Cold-mill the existing concrete pavement to the depth and cross section indicated on the log or plans, and as directed by the Engineer. Collect and dispose of the excess material resulting from the operations as specified in subsections 104.07.D and 204.03.B of the MDOT 2020 Standard Specifications for Construction.

Provide a final surface texture that is reasonably smooth and free of gouges, holes or large depressions. Prevent damage to the adjacent concrete. Where material is removed below the depth specified due to poor cold-milling practice, backfill and compact the resulting holes or depressions by hand patching according to subsection 501.03.C.9. of the MDOT 2020 Standard Specifications for Construction. Repair all damage to adjacent surfaces as directed by the Engineer. All costs associated with this corrective work will be borne by the Contractor.

The Contractor may, with the approval of the Engineer, choose to mill the HMA pavement in one pass or one series of passes and concrete pavement on a different pass. If the Contractor chooses to perform millings operations in this manner, no additional compensation will be paid and there will be no consideration for additional work days.

**d. Measurement and Payment.**

**Pay Item**

**(Pay Unit)**

Cold Milling Pavt.....Square Yard

**Cold Milling Pavt** includes removing, loading, hauling, weighing and disposing of the cold milled material and cleaning the cold milled pavement. All costs associated with collecting and disposing of material picked up by sweeping after cold-milling will be borne by the Contractor. This work will be measured by area in square yards regardless of the number of passes required to remove the concrete or HMA surface to the required depth.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
DRIVEWAY, NONREINF CONC, \_ INCH, MODIFIED

AEW/rtw

1 of 1

0160-0456

**a. Description.** This work consists of constructing non-reinforced concrete driveway and driveway approaches in accordance with sections 801, 802, and 803 of the Standard Specifications for Construction and Standard Plan R-29 series, except as modified by the details on the plans and this special provision.

**b. Materials.** Provide materials in accordance with subsections 801.02 and 803.02 of the Standard Specifications for Construction. Provide Concrete, Grade 3500.

**c. Construction.** Construct driveways in accordance with subsection 801.03, 802.03, and 803.03 of the Standard Specifications for Construction and Standard Plan R-29 series, except as modified by the details on the plans and this special provision.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for in accordance with subsection 801.04 of the Standard Specifications for Construction at the contract unit price using the following pay item:

Pay Item	Pay Unit
Driveway, Nonreinf Conc, 6 inch, Modified .....	Foot
Driveway, Nonreinf Conc, 8 inch, Modified .....	Foot

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**CURB AND GUTTER, CONCRETE, DETAIL F2, MODIFIED**

AEW / rtw

1 of 1

APPR:DMG:TES:02-22-21

**a. Description.** This work consists of installing concrete curb and gutter in accordance with section 802 of the Standard Specifications for Construction and Standard Plan R-30 Series, except as modified by the details on the plans and this special provision.

**b. Materials.** Provide materials in accordance with subsection 802.02 of the Standard Specifications for Construction.

**c. Construction.** Construct the curb and gutter in accordance with subsection 802.03 of the Standard Specifications for Construction and Standard Plan R-30 Series, except as modified by the details on the plans and this special provision.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for in accordance with section 802 of the Standard Specifications for Construction at the contract unit price using the following pay item:

**Pay Item****Pay Unit**

Curb and Gutter, Conc, Det F2, Modified.....Foot

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**MAINTAINING TRAFFIC**

AEW / rtw

1 of 7

0160-0456

**a. Description.** This work shall consist of all labor, materials and equipment required to maintain traffic in accordance with this Special Provision for work related to the Hampton Road Water Main and Resurfacing in the City of Grosse Pointe Woods.

**b. General.** Traffic shall be maintained by the Contractor throughout the project in accordance with Sections 104.07, 104.11, and 812 of the MDOT 2020 Standard Specifications for Construction, the 2011 Michigan Manual on Uniform Traffic Control Devices (MMUTCD), this Special Provision, and any Supplemental Specifications in the Proposal.

1. The Contractor must develop and submit to the Engineer at the pre-construction meeting an Internal Traffic Control Plan (ITCP) per Section 104.11.B of the MDOT 2020 Standard Specifications for Construction. The Contractor's ITCP is subject to the approval of the Engineer. Allow a minimum of 7 calendar days to review the plan for acceptance or provide comments for plan revisions. An approved ITCP is required prior to the start of work. Revisions to the Contractor's ITCP may be required as the work progresses. All costs associated with the development and/or revisions of the Contractor's ITCP have been considered to be included in the cost of other contract items.
2. The Contractor shall coordinate his work with other Contractors that may be performing work within the Construction Influence Area (C.I.A.), or adjoining areas, to avoid conflicts in the maintenance of traffic or construction signing, and to provide for the orderly and safe progress of contract work.
3. The Contractor shall notify the Engineer a minimum of three business days prior to the implementation of any detours, road closures, sidewalk closures, lane closures, or major traffic shifts.
4. The Contractor shall contact local public safety departments within three business days of all detours, road closures, sidewalk closures, and lane closures prior to the start of that closure being implemented.

**c. Construction Influence Area (CIA).** The CIA shall include the areas within the right-of-way of the following roadways, within the limits described below:

1. Project streets from the point where advanced construction warning signing begins to the point where construction warning signing ends:

Hampton Road

2. In addition, the CIA shall include the following major cross streets, from the point where advanced construction warning signing begins to the point where construction warning signing ends:

Northbound Mack Avenue  
Marter Road

3. The CIA shall also include any minor cross streets, from the point where advanced construction warning signing begins, or 500 feet in advance of the project street, whichever is greater:

Goethe Avenue  
Charlevoix Avenue

4. Also included in the CIA are the advance construction signs placed on various routes advising motorists of pending construction activities.

**d. Work Restrictions.**

1. All work shall be performed between the allowable work hours stated in the local ordinances. Work hours may be extended beyond the allowable work hours with the prior approval of the Engineer to perform timely sawing of new concrete pavements. **IN NO CASE SHALL CONCRETE RELIEF SAWCUTTING WORK EXTEND BEYOND 10:00 PM.** No work shall be performed on Sundays and Holidays, unless special permission is granted by the City of Ecorse.
2. No work shall be performed during the holiday periods as defined by the Engineer.

**e. Traffic Restrictions - General.**

1. The Contractor must maintain traffic in accordance with the signing typical and notes contained therein, except as noted below. Changes or adjustments in the MOT plans, temporary pavement marking and signing typical provided may be necessary, subject to the approval of the Engineer or as determined by the Engineer.
2. No more than half the residents within the project limits shall be without access to their driveways at any time.
3. The hours described in this special provision may be modified or changed by the Engineer due to holidays, special events or traffic volumes.
4. The minimum lane width on project streets is 10'.
5. The existing speed limit of 25 mph will be maintained throughout the work zone. The existing speed limit will also be retained on intersecting side streets, unless otherwise approved by the Engineer.

6. The Contractor shall notify the Engineer at least three business days in advance of the removal of existing signs.
7. Changes or adjustments of sign locations as shown in the signing typicals and proposed staging plans provided may be necessary to fit field conditions or as determined by the Engineer.
8. Access for emergency vehicles (fire, ambulance, and police) shall be maintained at all times as directed by the Engineer.
9. Access to side streets must be maintained where directed by the Engineer and as detailed in the stage drawings.
10. Parking of the Contractor's employee's vehicles will not be allowed within the construction zone, except in areas determined by the Engineer. Contractor's vehicles may not utilize the on-street parking within 300' of the road closure.
11. Parking of the Contractor's or his employee vehicles will not be allowed in private parking lots unless written consent from the property owner has been received and supplied to the Engineer.
12. When lane closures are in place, completely cover or remove all conflicting warning, regulatory, and guide signs that are not applicable during construction.
13. Permanent signs that are improperly covered or damaged due to work on this project shall be replaced in kind by the Contractor at their own expense.
14. Prior to opening any lanes, remove (sweep and vacuum) all debris using a self-contained vacuum. The cost of sweeping is included in the cost of other contract items.
15. Replace all signs prior to opening lanes to traffic.
16. Traffic switches are prohibited weekdays between the hours of 6:00 am and 9:00 am, and between 3:00 pm and 7:00 pm.
17. Pedestrian access must be maintained at all times. Where portions of the sidewalk are being replaced, the Contractor shall provide safe passage around the construction zone for pedestrians.

**f. Traffic Restrictions-Lane Closures.**

1. Lane closures during Pre-Stage I and Post-Stage II work will not be permitted if the contractor is not actively working.
2. A minimum of one (1) lane of traffic on project streets shall be maintained at all times.
3. Minor and non-signalized intersections may be closed as directed by the Engineer.

**g. Construction Staging.** The traffic control required by this special is based on the suggested sequence of operations. The following is a brief description of traffic control required during each suggested construction stage.

Pre-Stage 1:

Erect Stage 1 traffic control signage and devices

Storm Sewer:

- Remove existing catch basins and storm sewer crossings
- Install proposed drainage structures and storm sewer
- One storm sewer location shall be constructed at a time to maintain resident access on either side of the sewer crossing. The road may be temporarily closed at each location with approval of the Engineer and in accordance with this special provision to accommodate the storm sewer work
- Goethe and Charlevoix intersections may be temporarily closed with approval of the Engineer and in accordance with this special provision to accommodate the storm sewer work
- Utilize Traffic Regulators as needed to maintain traffic
- Maintain pedestrian access as directed by the Engineer

Stage 1:

Water Main:

- Perform water main installation, testing, disinfection and connections
- Perform permanent water service transfers

Pavement Reconstruction (South Side):

- Remove Stage 1 asphalt surface
- Remove Stage 1 curb and gutter and driveways
- Perform station grading
- Install and backfill underdrain
- Place aggregate base course
- Pave Stage 1 curb and gutter
- Pave Stage 1 driveways
- Pave Stage 1 leveling course

Stage 2:

Pavement Resurfacing (North Side):

- Erect Stage 2 traffic control signage and devices
- Mill asphalt surface to the grades shown on the proposed cross section
- Remove and Replace select sections of curb and gutter and drive approaches as directed by the Engineer
- Pave Stage 2 leveling course



Post-Stage 2:

- Pave asphalt top course
- Perform irrigation repairs, restoration, tree planting, and cleanup

**h. Traffic Control Devices.****1. General.**

- A. All traffic control devices and their usage shall conform to the 2011 Michigan Manual on Uniform Traffic Control Devices (MMUTCD), and as specified in the plans or proposal.
- B. All items used for maintaining traffic shall meet “acceptable” criteria as defined by the American Traffic Safety Service Association (ATSSA) “Quality Guidelines for Work Zone Traffic Control Devices and Features” at the time of deployment and after each stage change.
- C. The Contractor shall routinely maintain all traffic control devices. The Contractor shall be responsible for reviewing the adequacy and maintenance of all traffic control devices at least once per day everyday for the duration of this project.
- D. Traffic control devices used on this project (except for arrow boards and PCMS’s) shall comply with NCHRP 350 or MASH where applicable.
- E. The Contractor shall be responsible for protecting the work area and must supply the necessary traffic control devices in addition to those called for on the plans to delineate the work area from the adjacent property.

**2. Temporary Signs.**

- A. All temporary signs used on this project shall be fabricated utilizing prismatic retro-reflective sheeting.
- B. All diamond warning signs along project streets and local roads may be 36” x 36” minimum. All diamond warning signs along Mack Avenue must be 48” x 48” minimum.
- C. All temporary signs shall have a minimum bottom height of 7’.
- D. All warning signs with supplemental plaques shown below the warning sign shall be placed on separate supports under the parent sign. The minimum bottom height of the supplemental plaque shall not be less than 1’ below the normal bottom height of the parent sign.
- E. No signs shall be attached to Type III Barricades.

- F. Unless otherwise noted on the sign layout plans, all temporary special signs shall be installed on steel posts. The cost of steel posts, portable supports, and the cost of relocating the sign and supports, shall be included in the cost of the sign.
  - G. Temporary sign supports shall be designed in accordance with the MDOT chart for wind loading.
  - H. The Contractor shall place W20-1 "ROAD WORK AHEAD" signs on all intersecting local roads where construction activities may be encountered. Place supplemental W16-8 "Hampton Rd" plaques where shown on the plans or as directed by the Engineer.
  - I. Unless otherwise noted, all applicable existing/proposed signs are assumed to be in place during construction. All existing signs in conflict with the temporary traffic control shall be covered. Conflicting Type II and III signs shall be identified in the field by the Engineer and Contractor. When ground-mounted signs on this project are to be covered, they shall be covered in accordance with Section 812.03 of the MDOT 2020 Standard Specifications for Construction.
  - J. All signs, temporary or permanent, which are damaged as a result of improper sign covering, shall be replaced at the Contractor's expense.
3. Channelizing Devices and Barricades.
- A. Use Lighted Arrows, Type B when closing a traffic lane or where directed by the Engineer.
  - B. Channelizing devices used on this project shall be plastic drums with high intensity sheeting for traffic shifts and tapers, sidewalk closures and as directed by the Engineer. 42 inch channelizing devices may be used on project streets in the construction zone to maintain minimum lane widths through the construction zone, and in other areas as approved by the Engineer. The use of cones will not be allowed on this project, except where approved by the Engineer.
  - C. Space channelizing devices as shown below, unless otherwise called for in the plans or as directed by the Engineer. In general, the spacing shall be as follows:
    - (1) 50 feet in tangents
    - (2) 25 feet in shifts or tapers
    - (3) 10 feet at locations where tight traffic control is required
  - D. Place a Type II Barricade at the limits of all sidewalk removals and other areas as directed by the Engineer
  - E. Place Type III Barricades, Lighted downstream of all major and minor intersections across the closed lane(s), and intermittently, as directed by the Engineer.

**i. Measurement and Payment.** The completed work for all required traffic control measures shall be measured and paid for at the Contract unit prices using the following pay items:

Pay Item	Pay Unit
Traffic Control, Minor Street.....	Lump Sum

Salvaging and re-installing existing Type II and Type III signs will not be measured and paid for separately.

Payment for traffic control related to sidewalk activities shall be included in the pay item provided for “**Traffic Control, Minor Street.**”

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**PROPOSED TREES**

AEW / mav

1 of 1

0160-0456

**a. Description.** This item of work is for the planting of a variety of trees per the Construction Documents.

**b. Materials.** Materials provided for this item shall be in accordance with Section 815 of the MDOT 2020 Standard Specifications for Construction, and as modified herein.

The City of Grosse Pointe Woods is allowing residents to pick from the following species to replace the trees that were removed for construction:

- Pyrus calleryana 'Callery Pear'
- Tulipa 'Tulip'
- Acer Pseudopatanus 'Regal Petticoat Maple'
- Tilia 'Linden'

All proposed trees should be 2.0 to 2.5 inch caliper trees that are balled and burlapped.

Contractor shall request a final planting schedule at least 2 weeks prior to placing order for trees.

**c. Construction.** Perform the required tree planting in accordance with Section 815 of the MDOT 2020 Standard Specifications for Construction, and as modified herein.

**d. Measurement and Payment.** The completed work, as described, shall be measured and paid for at the contract unit price using the following pay item:

**PayItem**

**Pay Unit**

Proposed Trees.....Each

This work shall be paid at the Contract unit price for each tree planted. The required seasonal watering and cultivation per Section 815 of the MDOT 2020 Standard Specifications for Construction for each tree planted shall be included in the Contract unit price for each.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**STAKING FIRST ROW OF SOD**

AEW / rtw

1 of 1

0160-0456

**a. Description.** This item of work consists of stabilizing the first row of sod along the back of curb using stakes in an effort to prevent the sod from being washed away during heavy rains.

**b. Materials.** Stakes shall be removable and biodegradable.

**c. Construction.** All work shall be performed in accordance with Sections 823 of the 2020 MDOT Standard Specifications for Construction, as detailed on the plans, and as directed by the Engineer.

Stakes shall be removed by the contractor after the new roots have been established. In the event that sod is washed away despite the staking. The Contractor is responsible for restoring the damage within 24 hours.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

**Pay Item**

**Pay Unit**

Staking First Row of Sod .....Foot

CITY OF GROSSE POINTE WOODS  
SPECIAL PROVISION  
FOR  
**IRRIGATION SYSTEM RESTORATION**

AEW / mav

1 of 2

0160-0456

**a. Description.** This work consists of verifying the location of, removing and salvaging portions of existing privately owned and maintained irrigation systems within the road right of way which are disturbed by construction. The work also includes the re-installation of sprinkler lines and spray heads after the work has been completed, prior to performing the final site restoration work.

Existing lawn irrigation systems are not necessarily shown or described in the contract documents. The Contractor shall ensure that proper care is taken during construction to locate, salvage and protect any existing lawn irrigation systems.

The work shall be performed by individuals familiar with all aspects of irrigation system installation with a minimum of five (5) years of experience in such work.

**b. Materials.** Utilize existing materials whenever possible. Provide new components of equal size and material if existing materials are deemed unsalvageable. New components must be compatible with the existing system.

**c. Construction.** Notify all businesses and residents of the impending construction and ask that they physically locate all sprinkler heads and other appurtenances prior to the start of construction.

Locate existing irrigation lines and spray heads. Carefully cut and remove the existing lines at a point just outside the limits of earth excavation. Insert temporary plugs into all open ends of pipe which are capable of withstanding any line pressure from the remaining portion of the irrigation system which is left undisturbed. Mark or record the location of plugged service lines.

Salvage all existing spray heads for later use. If deemed un-salvageable, furnish and install a new spray head of equal size and material.

Remove and dispose of existing plastic piping and spray heads which will not be re-used.

Employ the services of a recognized irrigation consultant to direct the Contractor in replacing the irrigation systems that are being altered, ensuring that the new lawn surface or parkway areas are adequately and properly covered by the new irrigation system components.

Verify the system functionality with the homeowner and/or business in the presence of the Engineer's Representative.

Irrigation system restoration shall be completed within 7 days of final grading.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item(s).

Pay Item	Pay Unit
Irrigation Pipe	Foot
Sprinkler Head, Adj	Each
Sprinkler Head	Each

The Completed work shall be measured and paid for as follows:

- a. All new irrigation pipe required to repair an existing irrigation system shall be measured per foot, regardless of the diameter size and includes the removal and disposal of existing pipe.
- b. All new sprinkler heads required to replace an unsalvageable head shall be measured per each head furnished and installed, regardless of the type or size.

Prior to payment for the irrigation work, the Contractor shall be required to provide the Engineer documentation showing that each homeowner and/or business has reviewed and accepted the irrigation repairs.

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
**WATER SERV, MODIFIED**

AEW / rtw

1 of 1

0160-0456

**a. Description.** This work consists of transferring existing water services from the existing water main to the new water main. This work includes furnishing all labor, equipment, and materials required to complete the work as described.

**b. Materials.** All materials must be in accordance with Sections 902, 923 and other applicable sections of the MDOT 2020 Standard Specifications for Construction and the supplemental water main specifications.

Unions shall be H-15400, three-part flare type by Mueller.

Service saddles shall be JCM 406 Coated Service Saddle with double stainless-steel straps and brass corporation stop.

**c. Construction.** All construction methods must be in accordance with the MDOT 2020 Standard Specifications for Construction. Perform work as detailed on the plans and in accordance with all requirements for water services in section 823.04 except as modified herein.

Cut the existing water service at the location shown on the plans or as directed by the Engineer. Only the necessary length of new water service shall be installed to connect the existing water service line to the new water main unless directed otherwise by the Engineer. Contractor shall match the size of the existing water service unless the existing service is 3/4" in which case the transfer shall be made with a 1" corporation, 1" copper and a 1" x 3/4" three-part flare union.

Cases where the existing water service line must be extended to the location of the new water main, shall be identified as "Water Serv, Extend, Modified" unless otherwise identified on the plans.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Water Serv, Modified .....	Each
Water Serv, Extend, Modified .....	Each

The unit price for **Water Serv, Modified** and **Water Serv, Extend, Modified** includes all requirements for water services in section 823.04 from the new water main up to the point where the new segment of water service is connected to the existing water service.



## CITY OF GROSSE POINTE WOODS

### SPECIAL PROVISION FOR WATER SERV, SPECIAL

AEW / rtw

1 of 2

0160-0456

**a. Description.** This item of work shall consist of furnishing and installing all materials required to replacing lead service lines from the stop box to the water meter of the home as shown in the construction plans. All work shall be in accordance with section 823 of the MDOT 2020 Standard Specifications for Construction, the details on the plans and the City of Grosse Pointe Woods Standard Water Main Detail Sheets except where described herein:

- All pavement removal and replacement shall be paid for as a separate bid item
- Item will require permit from the City in order to access service inside of resident's home

**b. Materials.** Provide materials in accordance with Section 923 of the MDOT 2020 Standard Specifications for Construction, the details on the plans and the City of Grosse Pointe Woods Standard Water Main Detail Sheets

Water Services shall be Type K copper. Contractor shall match existing water service size unless otherwise specified on the plans.

Fittings shall comply with all current national and local plumbing codes.

Push-to-Connect fittings such as SharkBite products are not acceptable for use with this item of work.

**c. Construction.** This work shall be performed in accordance with all applicable subsections of Section 823 of the MDOT 2020 Standard Specification for Construction, as shown on the plans, and as directed in the field. The City will coordinate the permit with the residents which require this water service replacement. It is the responsibility of the Contractor to coordinate with the resident the specific time that this replacement will occur and give proper notice prior to starting this work.

Work may be completed by either open cut method, directional drilling or pipe pulling.

The existing foundation wall or floor shall be core drilled to allow for the penetration of the new type K copper water service pipe. The interior and exterior of the cored hole shall be completely and neatly sealed with hydraulic cement. The contractor shall exercise caution to prevent damage to the existing foundation. Any damage to the foundation that is a result of the contractor's operations shall be repaired at the contractor's expense. The contractor shall be responsible for moving and restoring any items on the interior of the home that are necessary for them to complete the proposed work.

The contractor shall be responsible for any modifications to the interior plumbing necessary to install the new water service. A new interior water shut-off valve (ball valve) shall be installed on

the upstream side of the meter and shall be included in this item of work. **All interior plumbing work must be done under the supervision of a State of Michigan Licensed Plumber.** Permits must be pulled for all service line installations. All permit fees will be waived. The contractor will be responsible for all costs associated with replacing the meter if the meter is damaged by the contractor during the replacement of the service line.

The contractor must restore water service to each home by the end of the day. Under no circumstances will a homeowner be left without water over night.

The contractor will be responsible for removing any debris generated by the work on the interior and exterior of the building and restore all disturbed areas to a condition equal to or better than existing.

Work may need to be completed on weekends or off hours to accommodate resident's schedules. No additional compensation will be allowed for work completed on weekends or off hours. All interior work shall be coordinated with the property owner and approved by the City of Grosse Pointe Woods.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item.

Pay Item	Pay Unit
Water Serv, Special .....	Each

Measurement and payment for this item of work includes all requirements for water services described in section 823.04 in addition to the length of water service from the stop box to the meter, all fittings necessary to reconnect to the meter, drilling and sealing the foundation at the service penetrations, restoring the service to working condition, restoring the disturbed excavated area beyond the right-of-way line and restoring the condition of the building interior.

CITY OF GROSSE POINTE WOODS  
SPECIAL PROVISION  
FOR  
**AUDIO VISUAL RECORD OF CONSTRUCTION AREA**

AEW / mav

1 of 4

0160-0456

**a. Description.** This work consists of providing a complete, color, audio-visual record of the construction area as it exists prior to the beginning of any construction activity.

**b. Qualifications.** The audio-visual record of construction area shall be performed by a responsible commercial firm known to be qualified and regularly engaged in the business of color audio-visual construction documentation. The firm shall furnish such information as the Engineer deems necessary to determine ability to produce professional quality video in accordance with this specification.

**c. Scheduling.** The audio-visual recording shall be performed within a two (2) week period prior to staging of equipment or materials in the construction area. Deliverables shall be furnished to the Engineer a minimum of one (1) week prior to construction starting. No equipment or material shall be placed or delivered to the construction area prior to Engineer review of the audio-visual record.

The audio-visual recording shall be done during a time of good visibility. No recording shall be done during periods of visible precipitation or when more than ten percent (10%) of the ground area is covered with snow, unless authorized in writing by the Engineer.

The Contractor shall notify the Engineer seventy two (72) hours prior to any scheduled recording on private property. The Engineer shall notify affected property owners of scheduled recording and request permission. If permission is denied, Contractor shall ONLY perform recording from public Right-of-Ways (ROWs). The audio-visual record log shall note where permission for entry onto private property was requested and not obtained thereby limiting access to public ROWs only.

**d. Coverage.** The audio-visual coverage shall include all surface features located within the construction zone of influence. The construction zone of influence shall be defined as follows:

1. the area within any permanent and temporary easements and the areas adjacent to these easements which may be affected by routine construction operations;
2. the area within all road ROWs and the areas adjacent to these ROWs which may be affected by routine construction operations; and
3. as directed by Engineer.

The surface features within the construction zone of influence shall include, but not be limited to, all visible existing pavement, roadways, driveways, sidewalks, curbs, ditches, culverts, utility structures (manholes, gate wells, hydrants, catch basins, cleanouts, curb stop valves, etc.), landscaping, trees, shrubbery, fences, headwalls, retaining walls, and buildings.

Of particular concern shall be the existence and location of any faults, fractures, and defects.

Houses and buildings shall be identified visually by address, when visible, in such a manner that structures of the proposed system (i.e., manholes on a sewer system & gate wells and hydrants on a water system) can be located by reference. In all instances, however, location shall be identified by audio (or voice-over) and visual means at intervals not to exceed 100 linear feet in the general direction of travel.

Areas which lie within the construction zone of influence and which are accessible by conventional wheeled vehicles shall be recorded on both sides of the ROW, easement or street.

The Engineer shall have the authority to designate areas to be added or omitted from audio-visual coverage.

**e. Performance.** All video shall be filmed in a high-resolution digital format. Video shall be recorded in "Full HD," 1080HD (1920 x 1080 pixels) standard 16:9 aspect ratio (for standard widescreen) at 24 or 30 frames per second.

Videos are not to be recorded in 9:16 (vertical video) or 1:1 (square video). Recording on VHS and transferring to DVD is not permitted.

Video files are to be in .MP4, H264, .MOV, or .AVCHD format and labeled with the project name, date, and start and end locations. Each video file requires detailed information such as the date, project name, direction of travel, and viewing position to be embedded onto the video screen.

The date and time of recording shall be continuously displayed in the upper left corner of the video. The time information shall consist of real time hours and minutes, separated by colons (i.e. 10:38 a.m.). The date information will include the month, day and year and be placed directly below the time information (i.e. 10/5/07).

Information to assist the viewer's orientation will appear directly below the GPS location display. This information should be limited to one (1) line of text and be sufficient to allow a viewer to quickly identify the general location within the project area (i.e. "Esmt between First and Second", "Main St. – North ROW", "54321 Lincoln Ave", etc.).

Accompanying the video recording shall be a corresponding and simultaneously recorded audio track (voice-over) containing the commentary of the camera operator. The commentary shall assist in the maintenance of viewer orientation, identification of surface features, and objective description of the points of interest being shown on the video image. Of particular concern shall be the existence and location of any faults, fractures, and defects.

When conventional wheeled vehicles are used, the distance from the camera lens to the ground shall be between eight (8) and ten (10) feet to ensure proper perspective. Vehicles used to perform the audio audio-visual record shall be plainly marked with Contractor name and phone number. Contractor is responsible for traffic maintenance and control.

The rate of speed in the general direction of the conveyance used during recording shall not exceed forty-eight (48) feet per minute. Panning and zoom rates shall be electronically or manually controlled to provide clear viewing during playback.

In some instances, audio-visual coverage will be required in areas not accessible by conventional wheeled vehicles. Such coverage shall be obtained by walking or special conveyance approved by the Engineer.

**f. Deliverables.** The Contractor shall furnish to the Engineer three (3) thumb drives or hard drives of the complete audio-visual record of the construction area. The complete audio-visual record of the construction area shall consist of the audio-visual record logs, the audio-visual recording of the construction area, and an edited set of the construction drawings.

The audio-visual record log shall accurately catalog the contents of each DVD. A separate log shall be created for each DVD. Each log shall include the following information in the title/header section: Owner, Engineer, Project name, AEW project number, date of recording and unique DVD number. Additionally, each log shall include the following information for each individual segment:

1. Reference construction drawing sheet number;
2. Street name, easement description, or address;
3. Travel direction;
4. Real time code indexing for each individual segment, indicating hours, minutes and seconds to cross reference with playback equipment to locate specific points of interest on the project;
5. Camera viewing direction
6. Starting location – description and approximate engineering stationing;
7. Ending location – description and approximate engineering stationing.

Each individual segment must be intuitively delineated using intersections, addresses, landmarks, or in the absence of more distinguishing features. Examples of acceptable segment delineation include:

- North Main Street ROW from Seventh Ave to Eighth Ave;
- East Oak Street ROW from DTE Corridor to County Drain;
- South Lincoln Ave ROW from 54001 Lincoln to 54999 Lincoln;
- Water Main Easement from Washington Elementary to Second Street.

All thumb or hard drives shall be labeled with applicable project information and be cross referenced to audio-visual record logs. Information on the label shall include:

1. Unique video file number
2. Owner/Engineer
3. Project name
4. AEW project number
5. Date of recording

An edited set of the construction drawings shall include the complete engineering plan set edited by the Contractor. Edits shall consist of delineating the points of beginning and ending of each individual segment, notation of unique video file number of each individual segment, and an arrow indicating direction of travel for each individual segment. Edits shall be legibly written in red ink.

**g. Acceptance.** The Engineer shall have the authority to reject all or any portion of the audio-visual record not conforming to this specification.

**h. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Audio Visual Record of Construction Area .....	Lump Sum

CITY OF GROSSE POINTE WOODS

SPECIAL PROVISION  
FOR  
RUBBISH PICKUP

AEW / mav

1 of 1

0160-0456

**a. Description.** This item of work consists of the weekly pickup and moving, by the Contractor, of both commercial and residential rubbish and recycling containers from the front yards where work under this Contract will inhibit or prevent the City's Refuse Collection Service from collecting said rubbish, etc.

**b. Materials.** None.

**c. Construction.** All Business Owners and residents will be instructed to have their rubbish and recycling containers at the curb side or sidewalk prior to 7:00am on their normal pick-up day. The Contractor shall pick-up and move said rubbish to the temporary designated location (either across the street, or in close proximity to the C.I.A.) by 7:30am on that day. Once picked up by the City's Refuse Contractor, the trash cans and recycling containers shall be returned, by the Contractor, to each property owner's frontage.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

Pay Item	Pay Unit
Rubbish Pickup.....	Lump Sum

## **SECTION 823. WATER MAINS**

**823.01 Description** These written Specifications are intended to modify and supplement Sections 823 and 923 of the MDOT Standard Specifications. A conflict between these written specifications and the MDOT Standard Specifications shall be resolved in favor of these written specifications.

The work consists of excavating, installing, backfilling, testing, and disinfecting water mains and associated appurtenances.

**823.02 Materials** Provide materials in accordance with the following:

**A. General** All water main pipe, fittings, and appurtenances shall meet the requirements the current specifications of the American Society for Testing and Materials (ASTM), the American National Standards Institute (ANSI), the American Water Works Association (AWWA), and the Safe Drinking Water Act.

**B. Defective Materials** All pipe, fittings, valves, hydrants, and other appurtenances shall be examined carefully for damage and other defects prior to installation. Defective materials shall be replaced or corrected and held for review by the Owner. Rejected material shall be so marked and removed from the project site.

**C. Pipe**

1. Restrictions. PVC and HDPE water main shall only be used when specified on the plans or with written authorization of the engineer. The use of asbestos cement pipe and gray iron pipe will not be allowed.
2. Approved Pipe Materials. The approved types of pipe are shown on the Drawings or specified in the community Standard Detail Sheets and shall meet the following:
  - a. Ductile Iron Pipe (DI)  
ANSI/AWWA C151/A21.51 Class 54, double cement lined. NSF 61.
  - b. Polyvinyl Chloride Pipe (PVC)  
ANSI/AWWA C900, PC 235 (DR 18), 4" through 12" only. NSF 14 and 61. Certification must be stamped on exterior of pipe.
  - c. River Crossing Pipe  
ANSI/AWWA C151/A21.51 Class 54, double cement lined equal to "Usiflex Boltless Flexible Joint Pipe" by U.S. Pipe, or "Clow Ball and Socket Pipe" by Clow Corporation. NSF 61.
3. Manufacture's Identification  
Pipe shall have the nominal pipe size, material, class, dimension ratio, and pressure class shown on each pipe along with the NSF certification, Manufacturer's mark and country where produced.

**D. Pipe Joints**

Joints for the various acceptable types of water main shall comply with the following:

1. Push-on Type Joint
  - a. Ductile Iron Pipe  
ANSI/AWWA C111/A21.11 with serrated brass wedges. Two (2) wedges for 6-12 inch pipe, and four (4) wedges for pipe 16 inches and larger.



## **SECTION 823. WATER MAINS**

- b. PVC Pipe  
ANSI/AWWA C900 with elastomeric-gasket bell ends.

### **2. Mechanical Joint**

ANSI/AWWA C-111/A21.11

- a. Bolts shall be “Cor-Blue” or “R-Blue” with T-Heads, Hex-Head nuts or approved equal.
- b. All mechanical joints shall be wrapped with polyethylene in accordance with ANSI/AWWA C105/A21.5 when required on the Standard Details for construction
- c. Split retainer glands are not allowed.

### **3. Flanged Joint**

ANSI/AWWA C111/A21.11 with rubber, ring gaskets.

- a. All flanged joints exposed to earthen materials, shall be wrapped with polyethylene in accordance with ANSI/AWWA C105/A21.5 when required on the Standard Details for construction.
- b. Flanged joints shall be used only when specified on the plans.

### **4. Restrained Joints**

If specified, restrained joints shall be a boltless restrained joint with a rubber gasket (Clow super-lock or approved equal). The restraining mechanism shall be a ductile iron retainer. The pipe shall be supplied with a factory installed lock-ring welded to the plain end of the pipe to anchor the retainer.

## **E. Fittings**

### **1. Ductile Iron**

ANSI/AWWA C153/A21.53 (compact fittings) with interior and exterior epoxy coating per ANSI/AWWA C116/A21.16 and with mechanical joints and retaining glands. Split retainer glands are not allowed.

- 2. The use of PVC and HDPE fittings are not allowed unless specifically requested or approved by the Engineer.

## **F. Lining, Coatings, and Polyethylene Encasement**

### **1. Interior Lining**

- a. Pipe: ANSI/AWWA C104/A21.4, Cement-Mortar, double thickness
- b. Fittings: ANSI/AWWA C104/A21.4, Cement-Mortar, single thickness, or; ANSI/AWWA C116/A21.16, Fusion-Bonded Epoxy

### **2. Exterior Coating**

- a. Pipe: ANSI/AWWA C151/A21.51 asphaltic coating
- b. Fittings: ANSI/AWWA C151/A21.51 asphaltic coating, or ANSI/AWWA C116/A21.16, Fusion-Bonded Epoxy

- 3. Seal Coat: ANSI/AWWA C104/A21.4 asphaltic material (Omit for epoxy coated fittings).

- 4. Polyethylene Encasement: ANSI/AWWA C105/A21.5, if required on the community Standard Details Sheets.

## **SECTION 823. WATER MAINS**

### **G. Valves and Hydrants**

#### **1. Gate Valves**

Gate Valves shall conform to ANSI/AWWA C509 or ANSI/AWWA C515 specifications and local community standards. Valves must be NSF 61 certified for those surfaces/materials in contact with potable water. The valve shall be cast with an iron body, a bronze non-rising stem, double "O"-ring replaceable seals and mechanical joints. Furnish with a two inch (2"), square operating nut and a resilient-seated wedge in accordance with the local community standards.

The opening direction shall be in accordance with the local community standards.

#### **2. Tapping Valves**

Tapping valves shall conform to the requirements of gate valves as specified herein. The valve shall be manufactured to allow a tapping machine to tap directly through the open valve.

The valve shall be supplied with a flanged joint for connection to the tapping sleeve and a mechanical joint for connection to the branch water main. The tapping sleeves shall be ductile iron or stainless steel with split sleeves and a flanged outlet.

#### **3. Valve Boxes**

Valve boxes shall be a 3-piece, screw type box (5 ¼ inch shaft) with an extension range of 51-60 inches. The box shall have a round base, sized to fit the valve, and a locking cover marked "water".

#### **4. Hydrants**

Fire hydrants shall be a dry-barrel type conforming to ANSI/AWWA C502 and all local municipal standards. Hydrants must be NSF 61 certified for those surfaces/materials in contact with potable water. The hydrants are to be supplied with a minimum valve opening of 5 ¼ inches and a six inch (6") mechanical joint inlet connection.

The hydrant shall be a "breakaway" type and shall be supplied without a drain outlet.

The threads for pumper and hose connections, operating nut (size and shape), direction of opening, and paint color shall be as designated by local fire department standards. The depth of bury, for hydrants, shall meet local community standards but in no case shall it be less than five feet (5').

### **H. Valve Wells and Concrete Products**

#### **1. Valve Well**

Valve wells shall be precast reinforced concrete (manufactured with Type IIA or IP (MS) cement), flexible-joint type in accordance with ASTM C478. All lifting holes shall be filled, and joints pointed, with hydraulic cement as specified in this section.

#### **2. Concrete**

Concrete for plain or reinforced anchorages, thrust blocks, encasements, meter pits, foundations, and other structures shall be MDOT Grade P1, with a minimum compressive strength of 3500 psi at 28 days (minimum of 5 ½ sacks of air entrained cement per cubic yard) unless otherwise noted on the plans or in the specifications.

Concrete for cradles shall contain 5 sacks of air entrained cement per cubic yard and a minimum compression strength of 3,000 psi. The concrete shall be mechanically mixed and have zero slump.

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Reinforcing steel, when required, shall conform to ASTM A615 current specifications with a minimum yield strength of 60,000 psi, unless otherwise noted on the plans or in the specifications.

Water for concrete shall be clean, fresh, and free of oil, acids, and organic matter.

### **3. Brick, Mortar, and Miscellaneous**

Brick shall be solid (no cores) concrete brick per ASTM C55 current specifications, Grade N. The brick shall have a nominal size of 2 ¼ x 3 ⅝ x 7 ¾ inches.

Mortar for masonry work, pointing, setting, adjusting or reconstructing frames and covers shall be hydraulic cement; Octocrete manufactured by IPA Systems, Xypex Patch 'N Plug manufactured by Xypex Products, Quad-Plug manufactured by Quadex Rehabilitation Products, Hydraulic Water-Stop Cement (No. 1126) manufactured by Quikrete, Strong-Seal QSR manufactured by the Strong Company or approved equal.

Water shall be clean and fresh, free from oil, acids and organic matter.

Cement-sand backfill, when called for on the plans, shall consist of one part Portland cement, dry-mixed with 10 parts of sand (by volume). Portland cement shall be air-entrained, type 1A conforming to ASTM C150, current specifications. Sand shall meet MDOT 2NS or 2MS sand.

### **4. Appurtenances**

Frames and covers shall meet the requirements as specified on the community Standard Detail Sheets.

Valve well steps, if required on the community Standard Detail Sheets, shall be plastic coated steel meeting the requirements in ASTM D2146-77, Type II, Grade 49108. Steps shall be M.A. Industries P.S.I. Polypropylene, MSU #360 ALU Poly or approved equal with foot recess and suitably scored to provide a non-slip surface. The maximum vertical spacing of the steps shall be sixteen inches (16") center-to-center. Bottom step shall be twenty-four inches (24") maximum above floor. Top step shall be eighteen inches (18") maximum below rim.

Exterior gate well seals shall be CANUSA wrap or approved equal.

Tracer wires shall be 10 gauge wires having "UF" or "USE" insulation.

## **823.03 CONSTRUCTION**

### **A. General**

The installation of DI and PVC pipe and appurtenances shall follow ANSI/AWWA C600 and C605 specifications and AWWA manuals M41 and M23 accordingly unless otherwise specified on the local community standard details for construction. The contractor is responsible for the loading and unloading of all materials and shall use the proper techniques to prevent damage.

### **B. Pipe**

#### **1. Pipe Cleanliness**

Foreign material shall be removed from the interior of the pipe and shall be prevented from entering the pipe while it is being placed. No debris, tools, clothing, or other materials shall be placed in the pipe at any time.

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Lumps, blisters, and excess coating shall be removed from the socket and plain ends of each pipe. The outside of the plain end and the inside of the bell shall be wiped clean and dry and be free from dirt, sand, grit, or any foreign materials before the pipe is laid.

### **2. Pipe Placement**

Unless otherwise directed by the Engineer, the pipe shall be laid with the bell ends facing the direction in which the work is progressing. The assembly of several sections of pipe, prior to placement in the trench, will not be permitted.

As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade as shown on the plans or as directed by the Engineer. The pipe shall not be bumped with a backhoe or excavator bucket to obtain the correct line or grade because of the possibility of such practices causing damage to the pipe and/or lining. **The bending of PVC pipe is not allowed.** The pipe shall be secured in place with the approved backfill material.

PVC pipe shall be installed with two (2), tracer wires installed on top of the pipe prior to placement of the initial backfill.

## **C. Joint Assembly**

### **1. Push-on Joints**

Assemble push-on joints as follows:

- a. Clean the groove and bell socket and insert the gasket, making sure that it faces the proper direction and that it is correctly seated.
- b. Check that the plain end is beveled. File or grind square or sharp edges to prevent damage or dislodging of the gasket.
- c. Clean foreign material from the plain end. Apply push-on joint lubricant to the gasket and plain end in accordance with the pipe manufacturer's recommendations.
- d. Push the plain end into the bell of the pipe to the home position. Deflect joints after the joint is assembled.
- e. The backhoe bucket and the pipe choker shall not be used to push or pull the pipe into the bell.

### **2. Mechanical Joints**

Assemble mechanical joints as follows:

- a. Check that the plain end is beveled. File or grind square or sharp edges to prevent damage or dislodging of the gasket.
- b. Clean the socket and plain end of dirt and foreign material. Place the retainer gland then the gasket on the plain end of the pipe. Lubricate the bell end, plain end and gasket with a soap solution or push-on joint lubricant before the joint is assembled.
- c. Insert the pipe into the socket and press the gasket firmly and evenly into the gasket recess. Deflections shall be made after the joint is assembled but before tightening the bolts.
- d. Bolts shall be initially drawn up snugly and uniformly on opposite sides of the pipe before final tightening. Tighten bolts with a torque wrench to the normal range of 75 to 90 ft-lbs.

### **3. Joint Deflection**

When it is necessary to deflect the pipe from a straight line, either vertically or horizontally, as called for on the plans or as directed by the Engineer, the deflection shall not exceed the following values:

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### **MAXIMUM JOINT DEFLECTION**

Nominal Pipe size (in)	Push-On Joint Maximum Offset (in)*	Mechanical Joint Maximum Offset (in)*
4	14	23
6	14	20
8	14	15
12	14	15
16	8	10
24	8	7

\*Offsets are based upon 18 foot lengths of pipe.

#### **4. Pipe Cutting**

Cut pipe for insertion of valves, fittings, or closure pieces in conformance with all safety recommendations of the manufacturer of the cutting equipment. Perform work and cut pipe in a safe, workmanlike manner without damaging the pipe or cement-mortar lining.

Cut ductile iron pipe square to the pipe axis using an abrasive pipe saw, rotary wheel cutter, guillotine pipe saw, or milling wheel saw. An oxyacetylene torch will not be allowed to cut the pipe.

Grind cut ends and rough edges smooth to the touch. Bevel the end for push-on joint connections.

### **D. Construction of Appurtenances**

#### **1. Hydrant Installation**

- Construct hydrants at the locations and to the grades shown on the plans or as directed by the Engineer. Do not alter the hydrant locations without approval from the Engineer.
- Installation shall conform to the dimensions and details in accordance with the water main detail sheets and as shown on the detailed plans. Stand hydrants plumb and with their nozzles parallel with, or at right angles to the curb, with pumper nozzle facing the curb or road. Hydrants having two nozzles at 90 degrees to each other shall be set with each nozzle facing toward the curb or road at an angle of 45 degrees.
- Connect hydrants to the main with a tee of the specified diameter and a six inch (6") valve and box. Plug drain outlets if supplied with the hydrant.
- Paint hydrants with two (2) coats of paint of the color specified by the community.

#### **2. Valves and Fitting Installation**

Install valves shall be installed at the locations shown on the plans unless otherwise directed by the Engineer.

- Prior to installation, valves may be examined by the Owner's Representative for direction of opening, number of turns to open, freedom of operation, tightness of pressure-containing bolting and test plugs, cleanliness of valve ports and especially seating surfaces, handling damage, and cracks.
- Valves not in conformance with the specifications may be rejected by the Owner or the Engineer. Install main line valves in a well with vertical supports so that the pipe will not be

## **SECTION 823. WATER MAINS**

required to support the weight of the valve. Valves shall be installed in the closed position.

Valves shall be set in line with the main and shall not be used to re-align the pipe. Stems shall be set plumb so that the operating nut is readily accessible through the opening in the top of the well.

c. Install brass corporation stops in the top of the pipe on each side of a gate valve (except hydrant valves). The location, size and type of corporation stop shall be in accordance with the local community Standard Details sheets.

d. Level the frame with concrete brick (12" maximum adjustment). Install exterior seals in accordance with the community Standard Detail Sheets.

### **3. Thrust Blocks, Anchors, and Encasements**

Install concrete thrust blocks on all tees, bends, caps, and plugs in accordance with the water main detail sheets.

Install concrete anchors on all vertical bends in accordance with the water main detail sheets.

Install concrete encasement to the dimensions as detailed on the plans.

In areas of unstable soils, alternate thrust restraint systems will be considered by the Engineer in place of concrete thrust blocks and anchorages. Alternate restraint systems may include restraining rods, Mega-lug restraints, restraining gaskets, pilings etc. The Engineer and Owner must approve the alternate restraint system prior to installation.

## **E. Hydrostatic Testing**

**Warning:** The testing methods described in this section are specific for hydrostatic pressure testing in accordance with AWWA Manual M41. These procedures should not be applied for air-pressure testing because of the serious safety hazards involved. Testing for PVC water main shall be performed in accordance with AWWA C605.

Verify with the local municipality if hydrostatic pressure testing is to be performed before or after disinfecting the water main.

### **1. Test Restrictions**

If the Contractor, for any reason, must have the existing water supply shut off, he shall contact the local DPW or Water Department to perform the shut off. The Contractor shall not shut off the water unless directly authorized by the Owner or Engineer.

The pressure test shall be conducted at 150 psi and may not vary by more than  $\pm 5$  psi for the duration of the test.

The hydrostatic test shall be at least a two (2) hour duration.

The maximum length of test shall not exceed 3,000 feet in length. The Owner reserves the right to test shorter distances.

Conduct the pressure test, supplying all equipment, materials, and labor to conduct the test, including a pump, pipe connections, gauges, meters and other apparatuses.

## **SECTION 823. WATER MAINS**

The Owner or Owner's Representative must be present to witness the pressure test. New pipe installations may not be connected to the existing water system during the hydrostatic test.

Conduct hydrostatic pressure test against closed hydrant valves.

### **2. Test Pressure**

After the pipe has been laid and backfilled properly, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of 150 psi at the point of testing. Each valved section of pipe shall be slowly filled with water, and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Owner. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. It is optional to allow the system to stabilize at the test pressure before conducting the leakage test.

### **3. Air Removal**

Before applying the specified test pressure, air shall be expelled completely from the pipe, valves, and hydrants. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks, which shall be located and recorded by the Engineer, at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged or left in place at the discretion of the Owner.

### **4. Examination**

Any exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings, valves, hydrants, or joints that are discovered following the pressure test shall be repaired or replaced with sound material, and the test shall be repeated until it is satisfactory to the Owner.

### **5. Leakage Defined**

Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section thereof to maintain pressure within 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time.

### **6. Allowable Leakage**

The maximum permissible leakage during the hydrostatic test shall not exceed a rate of 0.16 gallons per inch diameter of main per 1000 lineal feet in 2 hours at a pressure of 150 psi.

If any pipe installation exceeds the leakage rate, the Contractor, at his expense, shall locate and make approved repairs until the leakage is within the specified allowance. All leaks shall be repaired in the presence of the Owner or Engineer.

All visible leaks are to be repaired, regardless of the amount of leakage.

## **F. Disinfecting Water Mains**

Disinfect water mains in accordance with AWWA C651 current specifications, Michigan Department of Public Environmental Quality and the Detroit Water and Sewerage Department requirements.

## **SECTION 823. WATER MAINS**

Prior to disinfection, the Contractor shall verify if the local municipality, the Contractor, or another entity is to perform the disinfection. The Contractor shall comply with any and all modifications to this specification required by the local municipality to ensure compliance with community disinfection standards. Samples for testing shall be collected in accordance with the requirements of ASTM C651. Samples shall be collected every 1,200 feet, plus one set from the end of the lines and at least one from each branch greater than one pipe length.

### **1. Basic Disinfection Procedure**

- a. Prevent contaminating materials from entering the water main during storage, construction, or repairs.
- b. Remove by flushing or other means, those materials that may have entered the water main.
- c. Add the chlorinating agent to remove any residual contamination that may remain and flush the chlorinated water from the main.
- d. Determine the bacteriological quality by laboratory test after disinfection.

### **2. Acceptance**

Take two water samples 24 hours apart, from the newly installed main and test for bacteriological quality. The tests must be performed by a qualified laboratory and must show the absence of coliform organisms.

If test results show the presence of coliform organisms, the water main shall be rechlorinated until satisfactory results are obtained.

### **3. Disposal of Chlorinated Water**

Exercised caution when disposing chlorinated water to avoid upsetting environmental conditions. If necessary, contact the local sewer department for conditions of disposal to a sanitary sewer.

In very critical areas, a chemical neutralizing agent may be required to remove the chlorine. Chemical neutralizing agents shall be used only as directed by the Engineer.

## **G. Placing Into Service**

Make arrangements with the local water department for final connection to the existing water system after receiving approval of the hydrostatic and chlorination tests.

Water mains shall be placed into service within ten (10) days of the installation. Otherwise, all remaining construction on the contract may be halted.

The Owner reserves the right to place into service any completed portions of work which are ready for service although the entire contract is not complete. The Owner shall do so with written notice to the Contractor.

Placement of a portion of the main into service prior to completion of the entire contract shall not constitute final acceptance of the work.

Dewater all hydrants after placing the new main into full service and prior to leaving the site.



## **SECTION 823. WATER MAINS**

### **823.04 MEASUREMENT AND PAYMENT**

The actual number of units of each unit price item of work actually performed may be more or less than the number stated in the Basis of Bid in the Bid Form, or included in the contract, but no variation in the contract unit price will be made on that account. Payment will be made only for the actual number of units incorporated in the work, or for the actual number of units of work performed, and at the contract unit prices for each such unit with measurement for payment made as defined in the following paragraphs. Items not listed in this section for payment, or further defined by project specifications but necessary for completion of the project, shall be included in the construction.

<b>PAY ITEM</b>	<b>PAY UNIT</b>
Water Main, Abandon	LS
Water Main, Remove	Ft
Water Main, Bore, ___ inch	Ft
Fire Hydrant Assembly	Ea
Hydrant Adj	Ea
Tapping Sleeve and Valve, ___ inch x ___ inch	Ea
Gate Well Cover	Ea
Gate Well Cover, Adj	Ea
Water Service, Modified	Ea
Water Main Connection, ___ inch	Ea

#### **Water Main, Abandon**

The lump sum price for **Water Main, Abandon** includes the cost to bulkhead all open ends of abandoned water main with concrete, and if shown on the plans, fill the abandoned water mains with non-structural flowable fill in strict compliance with the State of Michigan permit or local community standards.

#### **Water Main, Remove**

The unit price for **Water Main, Remove**, where noted on the plans or directed by the Engineer, includes the cost of removal and disposal of the water main to an acceptable disposal site.

#### **Water Main, Bore, \_\_\_ inch**

The unit price for **Water Main, Bore** of the size required, shall include constructing the bore pit, sheeting, shoring bracing, and dewatering if necessary to accomplish the water main bore.

The Owner will not pay separately for a water main bore where the Contractor eliminates the need for the bore, or the water main is bored at the Contractor's discretion.

#### **Fire Hydrant Assembly**

The unit price for **Fire Hydrant Assembly** includes the cost of providing and installing the hydrant, auxiliary valve and box, pipe, and hydrant extensions necessary to achieve the required alignment and grade. The unit price shall also include all fittings, final painting, and dewatering of the hydrant.

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### **Hydrant, Adj**

The unit price for **Hydrant, Adj** includes the cost of vertically adjusting the hydrant, and the hydrant extension spool necessary to achieve the required grade, final painting, and dewatering of the hydrant.

### **Tapping Sleeve and Valve, \_\_\_ inch x \_\_\_ inch**

The unit price for **Tapping Sleeve and Valve, \_\_\_ inch x \_\_\_ inch**, of the size required includes the cost of providing and installing the tapping sleeve, valve, all necessary restraints, complete and ready for use. This work includes the complete live tapping procedure.

### **Gate Well Cover**

The unit price for **Gate Well Cover** includes the cost of providing and installing the gate well cover following the provisions of Drainage Structures in Section 403. Adjustments to achieve the required grade for gate well covers on new gate well structures is included in the pay item **Gate Well, \_\_\_ inch dia.**

### **Gate Well Cover, Adj, Case \_\_\_**

When new gate well covers are placed on existing gate well structures, the Owner will pay for **Gate Well Cover, Adj, Case \_\_\_** in addition to the new cover, as Case 1 or Case 2 as specified in **Section 403 for Drainage Structure Cover**.

### **Water Serv, Modified**

The unit price for **Water Serv, Modified** includes all requirements for water services in Section 823.04 except the water service connection is made without installing a new shutoff.

### **Water Main Connection, \_\_\_ inch**

The unit price for **Water Main Connection** of the size required includes the cost of all fittings, solid sleeves, thrust restraints, removal of existing pipe, and to connect the newly installed water main to the existing water main. Connections may only be made following acceptable testing and disinfection results, and Owner's approval.

**GENERAL**

The following water main supplemental specifications are intended to address the installation of High Density Polyethylene (HDPE) water main using static pipe bursting methods and technologies. Any questions concerning items not addressed in these supplemental specifications will be deferred to the standard specifications for water main construction included in this document.

**1. SPECIFICATION FOR INSTALLING WATER MAINS BY PIPE BURSTING**

**A. Definitions**

1. Pipe Bursting: Method of trenchless construction in which a bursting tool splits the existing pipe while simultaneously installing a new Pipe of the same size or larger where the old pipe existed.
2. Project Engineer: Overall project engineer employed or retained by the municipal utility authority or private project owner.
3. Project Owner: Municipal utility authority, sewer district or private owner of the water main system.
4. Contractor: Firm engaged in the construction of underground water lines and with demonstrated competency using pipe bursting methods for the installation of water mains.

**B. Scope**

This specification addresses the installation of water main by pipe bursting, including connecting to existing mains, connecting to existing services or installing house connections. All gate valve in wells, hydrants, and other appurtenances will be installed using the general provisions and specifications for construction in effect at the municipal utility authority. The Contractor will furnish all labor, components, materials, tools and appurtenances necessary or proper for the performance and completion of the contract. Inspection and payment will be by the method stipulated in the contract.

**C. Qualifications**

1. Pipe Bursting Contractors will have actively engaged in the installation of pipe using pipe bursting for a minimum of five (5) years.
2. Field supervisory personnel employed by the Pipe Bursting Contractor will have at least five years' experience in the performance of the work and tasks as stated in the contract documents.

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### D. Submittal

The Contractor shall submit the following:

1. Submit documentation showing five (5) years of Pipe Bursting experience with a list of a minimum of 5 water main projects similar or greater in scope and value to the project specified in the contract documents. Information must include, but not be limited to, date and duration of work, location, pipe information (i.e., length, diameter, depth of installation, pipe material, etc.), project owner information, (i.e., name, address, telephone number, contact person), and the contents handled by the pipeline (water, wastewater, etc.).
2. Submit a list of field supervisory personnel and their experience with Pipe Bursting operations. At least one of the field supervisors listed must be at the site and be responsible for all work at all times when Pipe Bursting operations are in progress. Contract award will not proceed until the resume(s) of the Contractor's field supervisory personnel have been received and reviewed by the Project Engineer.
3. Submit the following drawings and documents:
  - a. Working drawings and written procedure describing in detail the proposed method of installation. This will include, but not be limited to, size, capacity and setup requirements of equipment; location and siting of insertion and retrieval pits; dewatering if applicable; method of fusion and type of equipment for joining pipe; type of cutting tool head; and method of monitoring and controlling line and grade. If the Contractor determines that modifications to the method and equipment as stated in the submittal are necessary during construction, the contractor will submit a plan describing such modifications, including the reasons for the modification.
4. If the Contractor is the low bidder, prior to project award the Contractor will submit the following information to the Owner for review:
  - a. Shop drawings, catalog data, and manufacturer's technical data showing complete information on material composition, physical properties, and dimensions of new pipe and fittings. Include manufacturer's recommendations for handling, storage, and repair of pipe and fittings damaged.
  - b. Method of construction and restoration of existing water service connections if different from the details in the Contract Drawings.

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5. If the above submittals are not acceptable to the Owner, the next low bidder will be contacted and the same submittals reviewed until a suitable bidder is awarded the project.

### **E. Site Conditions**

1. Bursting operations must not interfere with, interrupt, or endanger the surface or activity upon the surface.
2. Contractor must comply with all applicable jurisdictional codes and OSHA requirements.
3. When rock stratum, boulders, underground obstructions, or other soil conditions that impede the progress of bursting operations are encountered, the Contractor and Project Engineer must review the situation and jointly determine the feasibility of continuing bursting operations, making adjustments or switching to an alternative construction method.

## **2. MATERIALS**

### **A. Material Requirements**

1. HDPE pipe, appurtenances, and installation methods shall conform to the latest edition of AWWA standard C906. The AWWA standard C906 identification must appear on the exterior wall print line of the HDPE pipe.
2. All HDPE materials must be listed and approved for use with potable water under ANSI/NSF standard 14. The exterior wall print of all HDPE pipe proposed for installation and potable use must bear the NSF-PW identification, and must bear a blue stripe to indicate intended use.
3. HDPE pipe shall meet ductile iron pipe size (DIPS) standards, construction from high density PE 4710 polyethylene resin, having a dimension ratio of 11 or less and a minimum working pressure of 160 psi.
4. Adequate restraint must be provided at connections to appurtenances or transitions to different pipe materials using a mechanical joint adapter with stainless steel stiffener or approved equal.
5. Tracer wires shall be No. 12 AWG, copper-clad steel, extra high strength, hard drawn with 45 mil HDPE insulation, 1245\*-EHS by Copperhead Industries, LLC. Two tracer wires shall be used for all water main installations.
6. HDPE pipe and fittings will be used in accordance with the material specifications. All additional appurtenances (manholes, tees, gaskets, etc.) will

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meet the material specifications. All pipe installed by pipe bursting will be joined by an approved butt fusion, electrofusion, or restrained joint technique according to the manufacturer's specifications.

7. All pipe shall be made of virgin material. No rework except that obtained from the manufacturer's own production of the same formulation shall be used.
8. The pipe shall be homogeneous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
9. Prior to construction, Contractor shall submit for approval, the manufacturer's specific technical data with the complete information on resin, physical properties of pipe and pipe dimensions pertinent to this job. A certificate of "Compliance with Specification" shall be furnished for all materials to be supplied.
10. The physical appearance of the pipe having deformities such as concentrated ridges, discoloration, excessive spot roughness, pitting, varying wall thickness, etc., shall constitute sufficient basis for rejection. The pipe shall be homogeneous throughout, free from visible cracks, foreign inclusions and other defects. Pipe with gashes, nicks, abrasions or any such physical damage which may have occurred during storage and/or handling which are wider or deeper than 10% of the wall thickness, shall not be used and must be removed from the construction site.
11. Any pipe that has been damaged or does not meet with Owner approval shall be replaced at the Contractor's expense.

### **3. EQUIPMENT**

The pipe bursting unit shall be designed and manufactured to force its way through the existing line by fragmenting the pipe and compressing the broken pieces into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. See manufacturer specifications for what size unit should be used in what diameter of pipe, as well as parameters of what size unit for percentage of upsize allowed.

An on-line pipe bursting system utilizes a 24,000, 33,000 or 50,000 class Horizontal Directional Drill (HDD) to provide continuous tension to assist the tool. The static bursting unit shall pull the HDPE pipe with it as it moves forward.

The mechanical (static) bursting action of the tool shall increase the external dimensions sufficiently, causing breakage of the pipe at the same time expanding the surrounding ground. This action shall not only break the pipe but also create the void into which the bursting tool can be winched and enables forward progress to be made. At the time the HDPE pipe, directly attached to the burst head shall also move forward. The bursting tool shall have its own forward momentum while being assisted by HDD rod pullback or winching. A hydraulic or hydrostatic

winch shall give the bursting tool friction by which it can be moved forward. To form a complete operating system, mechanical tool must be matched to an HDD or a continuous tension hydraulic or hydrostatic winching system and be able to maintain the continuous tension throughout the burst. The HDD or winch should be fitted with a direct reading load gauge to measure the pullback force or winching load.

When utilizing a winch, the winch, cable and cable drum must be provided enclosed so that it may be operated safely without injury to persons or property. The contractor shall provide a system of guide pulleys and bracing at the exit pit to minimize cable contact with the existing line between launch and exit pits. The winch cable, burst head and HDPE pipe cannot come into contact with the supports of the trench shoring in the insertion pit.

#### **4. EXECUTION**

##### **A. General**

1. The Project Engineer must be notified immediately if any obstruction is encountered that stops the forward progress of bursting operations. The Contractor and Project Engineer must review the situation and jointly determine the feasibility of continuing bursting operations or switching to an alternative construction method. When it is determined that it is impossible to continue bursting operations, the Contractor will be directed how to proceed by the Project Engineer.
2. Dewatering of pits and excavations must meet the general provisions and specifications for new construction in effect at this municipal utility authority. The type of dewatering method will be at the option of the Contractor. When water is encountered, the Contractor must provide a dewatering system of sufficient capacity to remove water, keeping any excavations free of water until the backfill operation is in progress.

Dewatering will be performed in a manner that removal of soil particles are held to a minimum.

##### **B. Preparation**

1. Excavate required pits in accordance with the working drawings.
2. The bursting and fusion procedures and equipment shall provide protection of workers, particularly against electrical shock. As a minimum, grounding mats, grounded equipment, hot boots, hot gloves, safety glasses and hard hats shall be used by crew members. The bursting and fusion equipment shall have an alarm system capable of detecting electrical current.
3. Removal of trees, landscaping, pavement or concrete will meet the general

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provisions and specifications for product water main construction in effect at this municipal utility authority.

4. The Contractor shall be responsible for physically locating all existing utilities in order to determine their location and depth. The costs of any potholing and restoring potholed locations shall be borne by the Contractor and included in the unit price bid for installing new water main.
5. The Contractor shall pay particular attention to locations where proposed utilities cross existing utilities. All costs associated with the repair of damaged utilities shall be borne by the Contractor at no additional cost to the Owner.

### **C. Delivery, Storage and Handling**

1. Delivery, storage and handling of HDPE pipe shall be in accordance with manufacturer's recommendations.
2. If new pipe and/or fittings become damaged, before or during installation, it shall be replaced at the Contractor's expense, before proceeding further.

### **D. Insertion and Retrieval Pits**

1. The location and number of insertion and retrieval pits shall be proposed by the Contractor and approved by the Owner prior to excavation. The pits shall be located such that their number shall be minimized and the footage of the new pipe installed in a single pull shall be maximized.
2. Before any excavation is done for any purposes, the Contractor shall contact Miss Dig for determining field locations of existing utilities.
3. Any damage to adjacent properties that are not part of this work shall be repaired and restored to its original condition at the Contractor's expense.
4. Where it is necessary to excavate for the placement and use of a fusion machine, or any other cause, the Contractor shall furnish and install trench shoring or bracing in compliance with OSHA standards.

### **E. Pipe Joining**

1. The pipe is to be joined by heat fusion or mechanical joints proven for HDPE pipes. Both pipe and fittings must be NSF listed by the manufacturer and bear the "NSF-PW" logo or mark.
2. All areas where excavation is required to make connections or deflections shall be backfilled to grade with MDOT Class II sand compacted to 95% maximum unit



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weight. Payment shall be included in water main, pipe bursting.

### **F. Insertion of Pipe**

1. Prior to construction, the Contractor shall develop a temporary water system to supply water service to area residents and businesses during pipe bursting operations. It is anticipated that the system will be fed from existing fire hydrants. The temporary system and hydrants shall be disinfected in accordance with AWWA standards.
2. All buried utilities adjacent to the pipe bursting operation shall be reviewed and where necessary be excavated to relieve transient loading during the insertion operation. If any utilities or existing structures, including buildings, are within 24" of the pipe to be burst, the Contractor shall excavate a pit at the location to check clearance. If adequate clearance does not exist between the existing water main and the subject utility or structure, the Contractor shall employ substitute means to rehabilitate the existing water main as directed by the Engineer. For utilities or structures crossing within 6" of the existing water main to be burst, soil shall be excavated and removed to relieve loading during the bursting operation.
3. Any concrete encasements shall be excavated and broken out prior to the bursting operation to allow the steady and free passage of the pipe bursting head. All inline valves and fittings shall be removed prior to the bursting operation.
4. The new pipe shall be inserted immediately behind the bursting head in accordance with the manufacturer's recommended procedures. The "mole" shall be specifically designed and manufactured for the type of insertion process being used. It shall be utilized to guide and assist the bursting head during the operation. A pushing machine may be utilized to aid pipe insertion from the rear.
5. The new pipe being pulled into the existing pipe shall be protected and supported on rollers so that it moves freely and is not damaged by stones and debris on the ground during installation.
6. The Contractor shall allow sufficient lengths of product pipe to extend pass the termination point to allow connections to adjacent pipe sections. Pulled pipe shall be allowed 24 hours of stabilization time prior to making tie-ins. The length of extra produce pipe will be at the Contractor's discretion. Extra product pipe will not be considered part of the pay item for water main construction.
7. The Contractor shall install two tracer wires during the installation of the new pipe.

**G. Service Connections**

1. All service connections on the existing water main that is to be burst or that are to be taken out of service due to this Project, shall be connected to the temporary water system during bursting, disinfection, testing and service reconnection operations.
2. After the new HDPE pipe has been installed, disinfected and tested, the Contractor shall be responsible for reconnecting existing water services as directed by the Project Engineer. The service connections shall be tapped to the main line using the service saddle indicated on the plans.
3. The Contractor must submit for an Engineering review and approval of the connection procedure being used at the pre-construction meeting.

**H. Testing / Disinfection**

The HDPE pipe shall be tested according to sections 823.03.E and 823.03.F of the Water Main Standard Specifications.

**INSERTION AND/OR RETRIEVAL PIT**

This item shall be completed in accordance with the Supplemental Water Main Specifications contained herein.

The costs associated with excavating, using, and backfilling insertion and retrieval pits shall be considered included in the related water main items and shall not be paid for separately.

**TEMPORARY WATER SERVICE**

This item of work shall consist of providing a temporary water main as well as temporary water services to all buildings that are affected by the Contractor's operations. Pre-chlorinated pipe bursting acceptable for this project.

At the pre-construction meeting the Contractor shall propose, in writing, what methods and materials he intends to use to provide temporary water service for this Project. The Contractor's proposed methods and materials shall be subject to review and approval by the Engineer. Methods of temporary water service shall not prohibit vehicular access of any kind.

This item of work shall include all labor, material, and equipment necessary to complete the work.

Payment for this item of work shall be at the contract lump sum amount.

## **SUPPLEMENTAL WATER MAIN SPECIFICATIONS (PIPE BURST)**

AEW # 0160-0456

PB-9

### **WATER MAIN, HDPE, DR 11, 8 INCH, PIPE BURST**

The items of work “**WATER MAIN, HDPE, DR 11, 8 INCH, PIPE BURST**” shall be of the size and installation method as specified on the Plans and in the Specifications. All HDPE pipe shall meet ASTM F2620 and AWWA C906 standards. The construction covered by these items will result in having the proposed water mains in complete, approved, and operating conditions. All fittings, bends, anchorages, connections, backfilling, testing and other items necessary to complete the work shall be considered included in the cost of the new water main.

Payment for these items of work shall be at the contract unit price per lineal foot.

## GENERAL REQUIREMENTS

### **ARTICLE 1 – GENERAL**

#### **1.01 Purpose**

These General Requirements are supplemental to and form a part of the Contract herewith attached. They are intended to describe the general, quality and site control requirements to complete the Work specified. The General Requirements are further intended to cover the common phases of infrastructure construction according to the Contract Documents.

To safeguard the interests of the Owner, the Contractor will take all measures not specifically enumerated herein, but which conform to commonly accepted industry practices to secure the desired result. To further guard the Owner, all essentials of good practice in hiring, performing the Work, installation, protecting the Work and in the protection of individuals and property, whether enumerated herein or not, shall be followed.

#### **1.02 Included Items**

All labor, equipment, and materials necessary to perform the Work shall be considered as part of the Contract. Any items of work not specifically called for in the Contract Documents, but which are clearly necessary, are to be included at no increase in Contract Price.

#### **1.03 Governing Standards**

All materials, methods of construction, and testing shall conform to the current edition, at the time and date of Bid Opening, of the following governing standards, specifications and practices: American Association of State Highway Transportation Officials (AASHTO), American Concrete Institute (ACI), Americans with Disabilities Act Access Guidelines (ADAAG), American National Standards Institute (ANSI), American Standards Association (ASA), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM), American Welding Society (AWS), American Water Works Association (AWWA), Concrete Pipe Association of Michigan (CPAM), Michigan Department of Transportation (MDOT) Standard Specifications for Construction, Michigan Occupational Safety and Health Administration (MIOSHA), the Michigan Manual of

Uniform Traffic Control Devices (MMUTCD), National Association of Sewer Service Contractors (NASSCO), National Clay Pipe Institute (NCPI), Public Rights-of-Way Accessibility Guidelines (PROWAG), and Occupational Safety and Health Administration (OSHA).

In interpreting any specification or standard referred to, terms such as “Purchaser”, “Owner”, and the like shall be understood to mean the Owner and terms such as “Manufacturer,” “Supplier,” and the like shall mean the Contractor, as defined in the General Conditions.

In the event of conflict within governing standards referenced above, the most restrictive standard, as determined by the Engineer, will govern.

#### **1.04 Audio-Visual DVD Record of Site**

##### **A. Purpose**

The purpose of the audio-visual record of construction area is to accurately document the existing condition of the surface features within the construction area zone of influence prior to construction. When requested, the Contractor shall furnish the Owner a complete, color, audio-visual record in accordance with these specifications.

##### **B. Qualifications**

The audio-visual record of construction area shall be performed by a responsible commercial firm known to be qualified and regularly engaged in the business of color audio-visual construction documentation. The firm shall furnish such information as the Owner and/or Engineer deems necessary to determine ability to produce professional quality video in accordance with this specification.

The Contractor shall provide all labor, equipment, and materials necessary to provide a complete audio-visual record of the construction area in accordance with this specification.

##### **C. Scheduling**

No equipment or material shall be placed or delivered to the construction area prior to performing the audio-visual recording and submittal of all deliverables to the Owner.

The audio-visual recording shall be done during a time of good visibility. No recording shall be done during periods of visible precipitation or when more than ten percent (10%) of the ground area is covered with snow, unless authorized in writing by the Owner.

The Contractor shall notify the Owner seventy two (72) hours prior to any scheduled recording on private property. The Owner shall notify affected property owners of scheduled recording and request permission. If permission is denied, Contractor shall immediately notify the Owner. The audio-visual record log shall note where permission for entry onto private property was requested and not obtained thereby limiting access to public ROWs only.

#### D. Coverage

The audio-visual coverage shall include all surface features located within the construction zone of influence. The construction zone of influence shall be defined as follows:

1. the area within any permanent and temporary easements and the areas adjacent to these easements which may be affected by routine construction operations;
2. the area within all road ROWs and the areas adjacent to these ROWs which may be affected by routine construction operations; and
3. as directed by the Owner.

The surface features within the construction zone of influence shall include, but not be limited to, all visible existing pavement, roadways, driveways, sidewalks, curbs, ditches, culverts, utility structures (manholes, gate wells, hydrants, catch basins, cleanouts, curb stop valves, etc.), landscaping, trees, shrubbery, fences, headwalls, retaining walls, and buildings. Of particular concern shall be the existence and location of any faults, fractures, and defects.

Houses and buildings shall be identified visually by address, when visible, in such a manner that structures of the proposed system (i.e., manholes on a sewer system & gate wells and hydrants on a water system) can be located by reference. In all instances, however, location shall be identified by audio and visual means at intervals not to exceed 100 linear feet in the general direction of travel.

Areas which lie within the construction zone of influence and which are accessible by conventional wheeled vehicles shall be recorded on both sides of the ROW, easement, or street.

The Owner shall have the authority to designate areas to be added or omitted from audio-visual coverage.

#### E. Performance

All video shall be mastered in a high resolution digital format. Recording on VHS and transferring to DVD is not permitted.

To preclude the possibility of tampering or editing in any manner, all video must continuously display transparent digital information germane to the current video image. This information must be electronically incorporated through the original recording device.

The date and time of recording shall be continuously displayed in the upper left corner of the video. The time information shall consist of real time hours and minutes, separated by colons (i.e. 10:38 a.m.). The date information will include the month, day, and year and be placed directly below the time information (i.e. 10/5/10).

Global Positioning System (GPS) location by Differential GPS Satellites shall be displayed in the bottom center of the video. GPS location shall update once per second at five (5) meter or less positional accuracy. GPS location display will be at one tenth (1/10) arcsecond longitude and one tenth (1/10) arcsecond latitude (i.e. N41°40'52.9" W83°17'30.2").

Information to assist the viewer's orientation will appear directly below the GPS location display. This information should be limited to one (1) line of text and be sufficient allow a viewer to quickly identify the general location within the project area (i.e. "Esmt between First and Second", "Main St. – North ROW", "54321 Lincoln Ave", etc.).

Accompanying the video recording shall be a corresponding and simultaneously recorded audio track containing the commentary of the camera operator. The commentary shall assist in the maintenance of viewer orientation, identification of surface features, and objective description of the points of interest being shown on the video image. Of particular concern shall be the existence and location of any faults, fractures, and defects.

The distance from the camera lens to the ground shall be between eight (8) and ten (10) feet to ensure proper perspective. Vehicles used to

perform the audio audio-visual record shall be plainly marked with Contractor name and phone number. Contractor is responsible for traffic maintenance and control.

The rate of speed in the general direction of the conveyance used during recording shall not exceed forty eight (48) feet per minute. Panning and zoom rates shall be electronically or manually controlled to provide clear viewing during playback.

In some instances, audio-visual coverage will be required in areas not accessible by conventional wheeled vehicles. Such coverage shall be obtained by walking or special conveyance approved by the Engineer.

#### F. Deliverables

The Contractor shall furnish to the Owner two (2) copies of the complete audio-visual record of the construction area. The complete audio-visual record of the construction area shall consist of the audio-visual record logs, the audio-visual recording of the construction area, and an edited set of the construction drawings.

The audio-visual record log shall accurately catalog the contents of each DVD. A separate log shall be created for each DVD. Each log shall include the following information in the title/header section: Owner, Project name, AEW project number, date of recording and unique DVD number. Additionally, each log shall include the following information for each individual segment:

1. Reference construction drawing sheet number;
2. Street name, easement description, or address;
3. Travel direction;
4. Real time code indexing for each individual segment, indicating hours, minutes and seconds to cross reference with playback equipment to locate specific points of interest on the project;
5. Camera viewing direction
6. Starting location – description, GPS location and approximate engineering stationing;
7. Ending location – description, GPS location and approximate engineering stationing.

Each individual segment must be intuitively delineated using intersections, addresses, landmarks, or in the absence of more distinguishing features, GPS location display. Examples of acceptable segment delineation include:

- North Main Street ROW from Seventh Ave to Eighth Ave;
- East Oak Street ROW from DTE Corridor to County Drain;
- South Lincoln Ave ROW from 54001 Lincoln to 54999 Lincoln;
- Water Main Easement from Washington Elementary to Second Street.

If GPS location display is used to delineate segments, each segment shall include no more than 500 linear feet.

The audio-visual recording of the construction area shall be furnished on new, premium quality, single sided DVD(s) in individual DVD case(s). If multiple DVDs are required to furnish the audio-visual recording of the construction area, each DVD will be assigned a unique number. DVD(s) must be of an “authored” format which can be played and viewed in a consumer available DVD player and personal computer (DVD-R, MPEG-2, uncompressed). Video shall be NTSC-525 format with 525 horizontal lines per frame, 60 fields per second and 30 frames per second (fps).

The DVD(s) shall have chapters, or tracks, set at five (5) minute intervals to facilitate viewer navigation.

The DVD(s) must not contain any copy protection. The Owner and Engineer must be able to make copies of the recording from the DVD to VHS, Video-CD, or additional DVDs.

All DVD(s) and DVD cases shall be labeled with applicable project information and be cross referenced to audio-visual record logs. Information on the label shall include:

1. Unique DVD number
2. Owner
3. Project name
4. AEW project number
5. Date of recording
6. “Owner’s copy” or “Engineer’s copy”, as applicable.

An edited set of the construction drawings shall include the complete engineering plan set edited by the Contractor. Edits shall consist of delineating the points of beginning and ending of each individual segment, notation of unique DVD number of each individual segment, and an arrow indicating direction of travel for each individual segment. Edits shall be legibly written in red ink.

#### G. Acceptance

The Owner shall have the authority to reject all or any portion of the audio-visual record not conforming to these requirements.

## **ARTICLE 2 – QUALITY**

### **2.01 Observation of Materials & Work to be Performed**

Each bidder shall enter, as the “Estimated Quantity” of Construction Observation (when called for in the Basis of Bid), the number of “Crew Days” he will require for completion of the project. This number shall then be multiplied by the unit price for Construction Observation and the extension entered as the “Bid Price” for this item of work. The basis of computing crew days shall be based upon the Observer’s time as follows:

**¼ crew day for each 2 hour increment or part thereof.**

“Crew Days” as referred to above shall be computed for any one operation that requires a full time Construction Observer. The number of Observers required shall be as determined by the Engineer. Construction operations requiring full time Construction Observation are generally defined as follows:

#### A. General

1. Placement of traffic control devices.
2. Material testing and checking. (Services performed by a testing laboratory not included).
3. Observation of constructed appurtenances can be performed by the same Observer of the primary construction provided that both operations are in close proximity of each other and further provided that the Contractor cooperates to the extent that the Observer is informed, in advance, of the intent to construct the appurtenances and that no work be covered prior to the Observer having viewed the work performed. Proximity shall mean a DISTANCE NOT TO EXCEED 1000 FEET.

#### B. Paving

1. Site preparation, excavation and paving.
2. Sawing and sealing.
3. Sidewalks, trails & aggregate surfaces.

#### C. Water Systems

1. Site preparation, excavation, bedding, pipe installation/repair and backfill.
2. Tunneling, jacking and boring operations.
3. Installation and construction of appurtenances. (See General)
4. Pressure testing and disinfecting.

#### D. Sewer and Drains

1. Site preparation, excavation, bedding, pipe installation/repair and backfill.
2. Tunneling, jacking and boring operations.
3. Construction of appurtenances. (See General)
4. Infiltration, exfiltration and /or low pressure air testing. (as required)
5. Cleaning operations.
6. CCTV inspection.

#### E. Structures

1. Excavating and shaft construction.
2. Placement of forms and re-steel.
3. Placement of concrete.
4. Backfilling around structures.
5. Installation and testing of equipment.

#### F. Restoration

Restoration of all areas disrupted by the Contractor’s construction activities.

On pay estimates the actual number of “Crew Days” accumulated, up to the estimated quantity bid, will be entered and extended. This amount will be deducted from the pay estimate and retained by the Owner for Construction Observation services performed.

If the Contractor completes the Work using fewer “Crew Days” than the number stated in their Basis of Bid, the final payment shall include, in addition to the balance due him for the items of work completed, an amount equal to the number of unused “Crew Days” multiplied by the unit price for “Crew Days” as stated in the Basis of Bid.

If the Work under the Contract is incomplete when the Contractor has expended the number of “Crew Days” stated in their Basis of Bid, subsequent payments to the Contractor shall include a deduction equal to the number of excess “Crew Days” multiplied by the unit price for “Crew Days” as stated in the Basis of Bid.

The Contractor should note that the Observer's time, as used to compute "Crew Days", is measured from Portal to Portal.

If by Contract Modification, the quantity of Work under the Contract varies significantly from that stated in the Basis of Bid; the number of "Crew Days" shall be increased or decreased, as appropriate, in said Contract Modification. If the Contract Modification contains no increase or decrease in the number of "Crew Days" of Construction Observation, then no adjustment is to be made in the number of "Crew Days" stated in the Basis of Bid.

The Contractor shall give the Engineer at least 48 hours' notice, exclusive of Saturdays, Sundays or holidays, when the project will have an increase or decrease in the number of Contractor crews that will be performing work on the project so the Engineer can determine if an increase or decrease in the number of Construction Observers is required.

## **2.02 CCTV Inspection (Post-Const.)**

The Contractor shall provide for closed circuit television (CCTV) inspection of all installed sewers. All installed sewers shall be cleaned, by and at the Contractor's expense, immediately prior to CCTV inspection to ensure the sewers are free of debris. The inspection shall be performed in accordance with the current guidelines of the National Association of Sewer Service Companies (NASSCO) and performed by a NASSCO Pipeline Assessment and Certification Program (PACP ©) certified operator. All CCTV inspection shall be witnessed by the Owner and the Contractor. Any CCTV inspection performed in the absence of the Owner will be rejected. The CCTV Inspection shall not be performed if there is any fog or other adverse conditions within the sewer that may impair visibility.

All CCTV inspection shall be recorded on new, premium quality, single-sided DVD(s) on which sound and colored video information shall be recorded and turned over to the Owner. DVD shall be of an "authored" format capable of being viewed in a standard DVD player commonly available (DVD-R, MPEG-2). Display frame rate shall be 30 in National Television System Committee (NTSC) format. Each manhole to manhole section shall be on a separate track. The DVD shall include a menu listing section number, street number, manhole numbers, direction of flow and total footage. Selection of an individual inspection section shall

occur through this menu. The DVD shall not contain any copy protection. The Owner shall be able to make copies of the footage to additional VHS tape, DVD, or video-CD. All DVD's shall be correctly labeled and titled with the project name and number, and reference DVD number. The Contractor shall provide a DVD log containing a table of contents with the project name, number and reference to the contents of each DVD.

The color CCTV camera used for the inspection shall be one specifically designed and constructed for such inspection. The pan and tilt camera shall be operative in 100% humidity conditions, and have a high resolution lens capable of scanning 360-degrees circumference and 270-degrees on a horizontal axis to televise sewers and service connections. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera, television monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the Owner.

The investigation shall involve visual observation showing the running footage, manhole to manhole section and street or easement at all times on screen in all recordings. The investigation shall be performed at a rate of speed which will allow examination of each manhole, all points of infiltration, cracked or crushed pipe, defective joints, misalignment in line or grade and location of wye openings. As part of the CCTV inspection, all manholes shall be panned to show any and all connections along with its overall condition, the precise locations of each wye and any problems areas. These locations shall be entered on the investigation forms supplied by the Contractor.

The project name, date, time, footage counter and structure to structure section shall be displayed continuously. The camera shall be moved through the sewer in either direction at a rate of speed not to exceed thirty feet (30') per minute, stopping when necessary to permit proper documentation of the sewer's condition. The camera shall be stopped immediately adjacent to all points of infiltration, cracked or broken pipe, defective joints, misalignment in line or grade and location of service connections. The camera shall be rotated to allow viewing of the problem area or into the service connection. Manual winches, power winches, TV cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line.



A report detailing all notes, wye locations, and other pertinent information shall be made as a part of the CCTV inspection in accordance with NASSCO's PACP ©. The report shall be produced using CCTV inspection software provided by a NASSCO PACP © certified vendor. All CCTV reports shall be downloaded or recorded on board the CCTV vehicle. Formatting and layout, i.e., observations and defect codes shall be NASSCO PACP © standard.

If camera or other equipment becomes seized in a sewer and excavation is required to retrieve the equipment, all excavation, material, backfill and restoration shall be completed at no additional cost to the Owner.

Upon completion of the Work, Contractor shall submit two (2) copies of all DVD(s) along with one ( 1 ) digital copy and two ( 2 ) color copies of inspection reports, with table of contents, in tabbed, three ( 3 ) hole punched binders, to the Owner upon completion of the CCTV inspection. The DVD(s) shall be recorded or edited such that the sewer lines are recorded in consecutive order starting at the downstream manhole and proceeding upstream as shown on the plans. Report(s) shall follow in the same order as the DVD(s). The following information shall be recorded on the reports:

- A. Date
- B. Pipe size, length, material and shape
- C. Engineer or Construction Observer
- D. Owner
- E. Project Name and Number
- F. Location of recording
- G. Upstream and downstream manhole numbers, address of closest house
- H. Camera direction
- I. Direction of flow
- J. Wye location by station quadrant and condition
- K. Type of pipe (sanitary, storm, combined, process, force main)
- L. Type of joint and length between joints
- M. Manhole condition
- N. Drop from manhole rim to invert of sewer
- O. Cross section or profile of sewer
- P. Plan view of sewer and laterals
- Q. Camera operator and PACP © Certification Number
- R. Defects; station, quadrant, type, severity

Any defects noted during CCTV inspection shall be satisfactorily repaired or replaced, by and at the Contractor's expense, and witnessed by the Owner.

Defects shall include, but not be limited to failing low pressure air testing, exceeding infiltration limits, cracked or broken pipe, defective joints, misalignment in line or grade, and visible leaks or infiltration. Additional testing and CCTV inspection shall be performed at each affected segment, from manhole to manhole, subsequent to repair and/or replacement.

### **ARTICLE 3 – SITE CONTROL**

#### **3.01 Project Site**

##### **A. Field Offices and Sheds**

The use of field offices and/or sheds is not required unless otherwise specified. If the Contractor wishes to use a field office and/or shed, the Contractor shall provide and maintain such facilities at no cost to the Owner. The location, occupancy and use of field offices and/or sheds shall be approved by the Owner.

##### **B. Site and Road Cleanliness**

The Contractor shall keep clean all roads used in performance of the Work. Trucks hauling excavated materials, concrete, sand, stone, or other loose materials from or to the site, shall be trimmed and covered to prevent spillage. The Contractor shall be held responsible for Supplier and Sub-Contractor compliance.

If, in the opinion of the Owner or Engineer, cleanliness of the site and adjacent areas impacted by the Work is not progressing in a reasonable manner, Owner and Engineer shall have the right to direct the Contractor to perform corrective action immediately. In the event the Contractor does not immediately perform corrective action, the Owner may order any or all other operations of the Contractor, under this Contract, to cease until the cleanliness of the Work is proceeding in an acceptable manner. Further, if the Contractor fails to perform corrective action immediately, the Owner may perform such work at the Contractor's expense.

##### **C. Dust Control**

All sites, access roads, haul roads, detour roads, and other public and private roads, driveways and parking lots used by the Contractor must be maintained in a dust free condition during the life of this Contract. The control of the dust shall be accomplished by the application of dust control materials and methods of application which are in accordance with the requirements of the regulatory agency having jurisdiction.

Such dust control materials shall be applied as often as is necessary to control the dust.

If, in the opinion of the Owner or Engineer, the Contractor fails to provide adequate dust control, Owner and Engineer shall have the right to direct the Contractor to perform corrective action immediately. In the event the Contractor does not immediately perform corrective action, the Owner may order any or all other operations of the Contractor, under this Contract, to cease until dust is controlled in an acceptable manner. Further, if the Contractor fails to perform corrective action immediately, the Owner may perform such work at the Contractor's expense.

#### D. Noise Control

The Contractor shall comply with all local ordinances pertaining to noise control. Additionally, the Contractor shall employ commonly accepted noise control measures including, but not limited to: adherence to the allowable working hours, use of insulated generators, proper handling of equipment and materials, and consideration of businesses and residential dwellings in the placement of equipment and direction of exhaust ports.

All motorized equipment that must operate outside the allowable working hours shall be insulated. This equipment includes, but is not limited to: generators, pumps and lighted arrow boards that will operate overnight.

### 3.02 Site Access

#### A. Haul Routes

The Contractor shall work with the appropriate government agencies in determining truck routes on this project and shall have such routes approved by same before the routes can be used. Upon approval of the truck routes, the Contractor shall note the condition of the streets and notify the Owner and said government agencies in writing, where deficiencies are present. It shall thereafter be the responsibility of the Contractor to maintain the truck routes for the period of time such routes are used by the Contractor.

Any road damaged by the Contractor's operations shall be repaired by the Contractor at no cost to the Owner. Road repairs shall be in accordance with the standards of the road agency having jurisdiction or the property owner.

#### B. Temporary Roads / Drives

The Contractor shall provide and maintain temporary drives, parking areas, roads, alleys and sidewalks used during construction in a satisfactory and usable condition until completion and acceptance of final restoration.

#### C. Emergency Vehicles, Buses and Services

The Contractor shall notify the local police and fire departments, school districts, private schools, and all public transportation agencies 72 hours prior to closing or barricading of any street. The Contractor shall erect "Road Closed to Thru Traffic" signs, and designate a suitable detour approved by the road agency having jurisdiction.

The Contractor shall maintain access for emergency vehicles throughout the site and maintain access to all public and franchise utilities for the duration of the project. The Contractor shall accommodate the continuation of regular services such as mail delivery and rubbish pick up.

#### D. Pedestrian and ADA Access

##### 1. Pedestrian Access

The Contractor shall accommodate pedestrian access during performance of the Work. The Contractor shall erect signs and designate an acceptable alternate route if a pedestrian cross walk is closed or access to homes or businesses are impacted.

##### 2. Americans with Disabilities Act (ADA) Access

The Contractor shall not impede ADA access during performance of the Work. The Contractor shall make provisions to provide ADA access, in accordance with ADAAG, PROWAG and the MMUTCD, on designated alternate routes if a pedestrian cross walk is closed or access to homes or businesses are impacted.

#### E. Traffic Control and Maintenance

During the progress of the Work, the Contractor shall accommodate vehicular and pedestrian traffic, except as otherwise specified herein.

All Work shall be performed in a neat and satisfactory manner, and interference with the normal flow of traffic shall be kept to a minimum. Driveways and streets disturbed shall be replaced as soon as each crossing is made.

No street may be closed or partially barricaded without prior permission from the authority having jurisdiction. Such permission shall be in writing, and a copy thereof shall be delivered to the Owner prior to the closing or barricading of any street. Safety precautions shall be observed at all times.

The Contractor shall place and maintain traffic control devices in accordance with the Michigan Manual of Uniform Traffic Control Devices, current edition. Failure to comply with this requirement will result in the Owner shutting down the Work until the Contractor has provided the necessary protection. In addition, if required by the authority having jurisdiction, the Contractor shall provide flagmen for the directing of traffic.

The Contractor shall be responsible for all damage to the Work. The Engineer and Owner may order the damaged portion immediately removed and replaced by and at the Contractor's expense. The Contractor's responsibility for the maintenance of traffic control devices and for protecting the Work shall not cease until the Work has been accepted by the Owner.

### **3.03 Soil Erosion and Sedimentation Control**

The intent of the Soil Erosion and Sedimentation Control Act is to minimize the transfer and deposit of sediment to drains, streams, rivers and lakes. The Contractor shall obtain a soil erosion and sedimentation control permit from the local regulatory agency and pay all fees associated with the permit. The Contractor is expected to conduct his operation in accordance with the approved plans and permit.

Prior to final site review ALL structures and sewers in the line of Work, and adjacent thereto subject to receiving any type of foreign material during construction operations, shall be inspected by the local regulatory agency and/or Owner. Structures showing evidence of foreign material shall be cleaned by the Contractor at no additional cost to the Owner. If a structure shows evidence of sufficient foreign material to suggest migration into the sewer, as determined by the local regulatory agency or Owner, the Contractor shall clean the impacted sewer at no additional cost to the Owner. A construction observer will verify the acceptance of each structure and/or sewer when cleaning is completed.

### **3.04 Existing Drainage and Sewage**

If it is necessary in the execution of the Work to interrupt existing surface drainage, adequately sized temporary drainage facilities shall be provided until the existing drainage facilities are restored. The construction of all temporary drainage facilities shall be performed at no additional cost to the Owner.

The flow in all existing drains, storm sewers and sanitary sewers shall be maintained at full capacity, at the Contractor's expense, unless otherwise provided for in the Contract Documents.

### **3.05 Temporary Project Identification Signage**

The Contractor is not required to provide and erect a temporary project identification sign unless otherwise specified. If the Contractor proposes to erect such a sign, a written request and shop drawings must be submitted to the Owner for approval. The use, location, size, materials, lettering and mounting of any temporary project identification signs must be approved in writing by the Owner. If approved, the Contractor shall be responsible for maintaining the sign in good condition throughout the life of the Project and for removal of the sign at completion of the Work.

### **3.06 Survey Staking**

The Engineer will provide control points and construction staking in accordance with the provisions of this section. Any additional lines, levels or construction staking required by the Contractor to perform the Work shall be established by the Contractor at no additional cost to the Owner.

The Contractor shall carefully review the staking provided and compare the information shown on the construction survey stakes with the information shown on the drawings and provided on the cutsheets. The Contractor shall inform the Engineer of any apparent discrepancies before proceeding with the Work.

The Contractor shall utilize appropriate surveying instruments operated by qualified, competent personnel to maintain horizontal and vertical control for construction. If the method being used by the Contractor fails to give proper alignment and grade control to the Work, the Engineer will be empowered to order the Contractor to use such other method(s) as will provide adequate control.

#### A. Scheduling Notification

The Contractor shall notify the Engineer a minimum 48 hours prior to requiring any staking. Notification must be made by contacting the Engineer at (586) 726-1234. Communication with the crew, although recommended for mutual understanding of the requested service, is not sufficient notification.

#### B. Cutsheets

Cutsheets will be a copy of the survey crew's construction staking notes. Cutsheets will be available for distribution the following day from the Engineer.

#### C. Horizontal and Vertical Control Points (Benchmarks)

Horizontal and vertical control points will be provided for the use of survey, Contractor and construction observation personnel. The Contractor shall be responsible for preserving all control points. In the case of willful or careless disturbance, the Contractor shall be responsible for all expenses associated with reestablishing control points and shall also be responsible for delays and errors caused by their unnecessary loss or disturbance. If a control point must be disturbed in the normal course of the Work, the Contractor shall inform the Engineer a minimum 24 hours prior to disturbance.

#### D. Construction Staking

The Engineer will provide line and grade staking appropriate for each individual type of improvement being constructed. The Contractor shall be responsible for preserving all construction staking. In the case of willful or careless disturbance, the Contractor shall be responsible for all expenses associated with restaking and shall also be responsible for delays and errors caused by their unnecessary loss or disturbance.

It is recommended the Contractor review the following survey procedures prior to project commencement.

##### 1. Utility Staking

Proposed public utilities, excluding franchises, will be provided with offset stakes noting station and grade at intervals not to exceed one hundred (100) feet. Centerline lath and offset stakes with station and grade will be provided for all utility structures and appurtenances. Offset stakes

with station only will be provided for limits of sand backfill areas.

Proposed public utilities, excluding franchises, will be provided with offset stakes noting station and grades at conflicts identified on the plans.

Proposed public utilities, excluding franchises, will be provided with centerline lath at all tap locations and offset stakes noting station only for tees, bends and pipe deflections.

Sanitary service leads will be staked for new sanitary sewers. Short side service leads will be staked with offset stakes noting station. The centerline of long side leads will be staked with offset stakes noting station and end of lead stakes noting invert elevation.

Open drains will be staked with station and grade along the top of bank with references to the different elevations of the drain section. Additional stakes with station and grade will be provided at all deflections in the drain.

Each end of proposed bores and tunnels will be provided with centerline lath and offset stakes noting utility pipe invert elevation (or top of pipe elevation for water mains).

##### 2. Pavement

Pavement construction staking will only be provided along one side of the proposed pavement. Offset stakes noting station and grade will be provided as follows:

- Intervals not to exceed fifty (50) feet
- Intervals not to exceed twenty five (25) feet for curvilinear sections.
- High points, low points and grade breaks
- Points of Curvature (PC) and Points of Tangency (PT)

Radius points will be set for all curves with radius of fifty (50) feet or less. Stakes for public utility crossings will be provided after the sub-grade has been cut to grade. Super elevated and asymmetrical pavement sections will be provided with offset stakes

noting station and grade along each side of the proposed pavement.

### 3. Sidewalks

Sidewalks will be provided with offset stakes noting station, for alignment only, at intervals not to exceed one hundred (100) feet. Offset stakes noting grade will only be provided at locations with critical grades noted on the plans. Additional offset stakes noting station will be provided at locations with unique plan alignment.

## **ARTICLE 4 – UTILITY CONSTRUCTION**

### **4.01 General**

These construction requirements are intended to provide general construction guidance for elements of the Work that are not otherwise specified or referenced in the MDOT Standard Specifications. These requirements do not supersede the requirements of other agencies having jurisdiction or requirements outlined in the Contract specifications, special provisions and drawings.

### **4.02 Utility Conflicts**

The Contractor shall verify locations and depths of all existing utilities in advance of operations and shall notify the Engineer immediately if there is less than 18" minimum vertical clearance between existing and proposed utilities.

During the construction, the Contractor shall protect and support all utilities that are encountered and use extreme caution when operating near any and all overhead and/or buried utilities.

Generally the location of proposed utilities on the plans will be followed, but in the event the Owner desires to alter the alignment to avoid unforeseen conflicts or to ease the burden of installation, the alteration shall be revised upon the direction of the Engineer. The Contractor shall not arbitrarily alter the location of proposed utilities. Owner and Engineer approval must be obtained for any location revision proposed by the Contractor. The Owner, however, reserves the exclusive right to determine the feasibility of such an alteration and to so order.

If an alteration of proposed utility location entails an increase or decrease in the cost of construction, said revised cost must be approved prior to constructing the utility. If the utility is in the public road right-of-way, the consent of the right-of-way owner must also be obtained prior to any change in location.

### **4.03 Excavation**

Excavation shall be interpreted to mean and include the following: clearing the work site, loosening and removing all material of any characteristic which may be encountered, whether wet or dry to the depth required, and disposal of all surplus material. Excavation shall also include all collateral work necessary to complete the excavation as required, including but not limited to: sheeting, shoring, bracing, trimming, clearing, grubbing, tree removal within and adjacent to the area being excavated, supporting structures above and below ground, and removal, handling and disposal of both groundwater and surface water. **Excavations and earth moving operations shall not commence until soil erosion measures are in place according to the permit.**

All Work shall be done to line and grade as required in the Contract Documents and in accordance with grade stakes set by the Engineer. Prior to construction, the Contractor shall verify the line and grade stakes as set by the Engineer and immediately notify the Engineer of any discrepancies.

#### **A. Site Preparation**

Site preparation includes protecting and maintaining all existing features intended to remain in place, including but not limited to, conduits, wires, pipes, sewers, drains, fences, hydrants, pavements, sidewalks, trees, shrubs, landscape work, and lawns, and the removal of other items. Site preparation also includes providing and maintaining all facilities required to protect the Work, adjacent property, and the public from damage, injury, or loss.

#### **B. Included Materials**

Excavation shall include all materials encountered. Any unforeseen obstacles such as buried trees or timbers, abandoned utilities, metal objects, concrete masses, rocks, boulders, stones or any debris encountered shall be removed as work included in the construction, unless otherwise provided in the Contract Documents.

#### **C. Pipe Clearance**

Rocks, boulders, stones over two inches (2") in diameter and other buried materials shall be removed to provide a clearance of at least six inches (6") from any part of the proposed utility.

#### **D. Utility Trench**

The excavation shall be of sufficient widths and depths to provide adequate room for

construction, installation of the utility to line, grade, and dimensions called for on the plans, and to meet applicable safety regulations. In order to reduce the load on the proposed underground utilities and to avoid possible failures from excessive loads, the width of the trench shall be a minimum width to allow the backfill to be placed and compacted properly as shown in the bedding and/or trench details on the utility standard detail sheet.

#### 1. Open Trench

The Contractor shall limit open excavation by consistently backfilling completed utility installations to grade so that not more than 100 feet of trench shall be open at one time.

#### 2. Undercutting

Where, through the Contractor's construction procedure or because of poor existing ground conditions it is impossible to maintain alignment and/or grade properly, the Contractor shall excavate below the required grade and replace with appropriate suitable material.

Replacement material for all excess material removed shall be crushed stone or crushed concrete as approved by the Engineer. The cost of the additional excavation and placement of crushed material up to twelve inches (12") below the standard bedding depth shall be the responsibility of the Contractor and the cost shall be included in the Work. If additional excess excavation and material below twelve inches (12") is required and ordered by the Engineer, the Contractor shall be reimbursed for the additional work and the cost of said additional work shall be negotiated prior to construction unless otherwise provided for in the Contract Documents.

#### E. Stockpiling of Excavated Material

Excavated materials to be used for backfill shall be temporarily stored along the trench, in a manner that will not cause damage to trees, shrubs, fences, or other property, nor that will endanger the trench by imposing too great a load thereon. Distances from the edge of the trench shall be in accordance with current safety regulations.

#### F. Disposal of Excavation Materials

The materials excavated and not suitable or needed for backfilling shall be removed from the site and properly disposed of by the Contractor at their sole discretion, responsibility and expense.

#### G. Sheet piling, Bracing and Shoring

The Contractor shall furnish, place and maintain any sheet piling, bracing and shoring required by law to properly support the sides of the excavation and to prevent all movement, caving or squeezing of the soil. The Contractor shall protect pavement or utilities outside of the trench or pit. The Contractor shall assume full liability for the adequacy of all supports and site safety.

As the trench is backfilled, all sheet piling, bracing and shoring shall be removed in such a manner to prevent the caving in of the sides of the excavation or any damage to the pipe or structure unless the sheet piling, bracing and shoring is specified to be left in place. Where required to protect the Work, adjacent structures or property, sheet piling, bracing and shoring shall be left in place, but shall be cut off at a depth determined by the Engineer.

Any voids left by the removal of said materials shall be filled with compacted sand. All underground pipes, conduits and structures of every kind that may be encountered during the progress of the Work shall be shored up and fully protected from damage.

The Contractor shall receive no additional compensation for sheet piling, shoring or bracing, whether removed or left in place, unless otherwise provided for in the Contract Documents.

When a trench box is used, the bottom of the box shall ride above the top of the pipe. The Contractor shall secure the installed pipe to prevent pipe movement when the box is moved.

#### H. Dewatering

The Contractor shall provide and maintain adequate pumping and drainage facilities for the prompt removal and disposal of water from trenches or other excavations at all times during the construction of the Work. The Contractor shall submit a dewatering plan to the Engineer for review of well placement and discharge.

The excavation shall be kept dry until the backfilling and required testing has been completed. The Contractor shall receive no additional compensation for providing, maintaining, or operating any dewatering or drainage facilities unless otherwise provided for in the Contract Documents.

During construction, no trench water shall be allowed to enter the pipe either during construction or when work is not in progress. To prevent trench water and soils from entering the pipe when work is not in progress, all open ends of pipe or fittings shall be covered. No pipe shall be laid in water unless specifically permitted by the Engineer.

#### 1. Excessive Water

In water-bearing sand, quicksand or ground containing an excessive amount of water, the Contractor shall provide, install, maintain, and operate suitable deep wells, well points, tight sheeting, connecting manifolds, and reliable pumping equipment to operate same to insure proper construction of the Work. The Contractor shall fill all well holes with Bentonite upon the completion of dewatering operations.

#### 2. Discharge

Contractor shall comply with the sedimentation control requirements of the local agency having jurisdiction and obtain all required permits. Contractor shall utilize measures to prevent the discharge of sediments, including but not limited to, discharge through a filter bag.

Drainage or discharge lines shall be connected to adjacent storm water drains or extended to nearby water courses wherever possible. In any event, all pumping and drainage shall be done without damage to any paved surface or other property, public or private, and without interference with the rights of the public or private property owners. No ground water, storm water, construction water, downspout drainage or weep tile drainage shall be allowed to enter any sanitary sewer installation.

#### 3. Access

The Contractor shall be responsible for ensuring site access requirements during dewatering operations.

#### 4. Existing Wells

The Contractor shall be responsible for providing potable water to all residents whose drinking water well is inoperable due to dewatering, unless otherwise provided for in the Contract Documents.

### **4.04 Jacked in Place Steel Pipe**

When jacked in place steel pipe is specified on the plans or directed by the Engineer, it is intended to be accomplished with the use of a conventional boring pit operation. This includes a horizontal boring machine, auger and steel casing.

Bore items will only be paid if the work item is actually performed. If the Contractor proposes an alternate method of protecting trees or utility poles, or if it is determined the affected trees or utility poles can be removed, a price for the alternate will be negotiated prior to the start of the work. A Contract Modification will be issued to pay for the alternate method and to reduce the quantity for the associated bid items. Sheeting, shoring, bracing, and dewatering of the entry and receiving pit shall be included in the Jacked in Place Steel Pipe bid item.

#### **A. General**

During pipe jacking operations, the augers shall not extend beyond the end of the casing and the casing shall not be pushed unless the auger is turning. The auger head shall be four inches (4") behind the end of the casing.

#### **B. Casing Material**

Steel pipe casings shall meet the requirements of ASTM A-139, Grade B material. The casing shall be new pipe prepared for field welding of circumferential joints. The outside diameter and wall thickness of the casing pipe shall meet the minimum requirements set forth in Section 909 of the MDOT Standard Specifications for Construction.

The inside diameter of all other casing pipes shall be at least six inches (6") larger than the largest outside diameter of the carrier pipe. The casing diameter and wall thickness shown on the detailed plans shall govern in case of a conflict with these specifications.

#### **C. Skids and Bracing**

Skids, position braces and blocking braces shall be strapped to the carrier pipe prior to installing inside of a casing. All skids and braces shall be

wolmanized timber and notched to accommodate the steel strapping bands. Alternate skid and bracing materials may be used with Engineer approval or if specified by the government agency having jurisdiction.

#### D. Casing Fill and Sealing

Both ends of the casing pipe shall be sealed by bulkhead, with brick and mortar, after installation of the underground utility within the casing. The space between the carrier and casing pipe shall be filled with lean grout or flowable fill.

The lean grout or flowable fill shall be supplied in conformance with the "Guide Specification for Controlled Low Strength Materials (CLSM)" published by the National Ready Mixed Concrete Association and the referenced standards therein. It shall have an unconfined compressive strength of greater than thirty pounds per square inch ( $>30$  psi) and less than one hundred fifty pounds per square inch ( $< 150$  psi). The material must allow for excavation with non-mechanical equipment.

Alternate methods of filling and sealing the casing pipe may be used with Engineer approval.

The bore pits shall be filled to the spring line of the carrier pipe with suitable bedding material to adequately support the carrier pipe and prevent shearing at the ends of the casing pipe.

### **4.05 Backfill**

Backfill materials, methods, and requirements shall meet the MDOT Standard Plans R-83 series, and the MDOT Standard Specifications, unless otherwise noted herein, shown on the drawings or as required by other agencies.

#### A. Unsuitable Material

All backfill material shall be free from cinders, ashes, refuse, vegetable or organic matter, boulders, rocks or stones, or other materials which, in the opinion of the Engineer are unsuitable. Frozen material shall not be used as backfill.

#### B. Bedding and Initial Backfill

Unless otherwise directed, all utility excavation shall be backfilled at least to a point one foot

(1') above the underground utility pipe immediately after installation.

Bedding and initial backfill material, from a minimum four inches (4") below the underground utility pipe to a point one foot (1') above the top of the pipe, shall be in accordance with the Standard Bedding Detail on the applicable utility Standard Detail Sheet. This backfill shall be placed in six inch (6") layers and compacted to ninety-five percent (95%) of the maximum unit weight.

#### C. Trench Backfill

Trench backfill in areas within the influence of sidewalks or vehicular traffic shall be placed in layers not to exceed twelve inches (12") in thickness and thoroughly compacted to ninety-five percent (95%) of the maximum density as determined by the Modified Proctor Method.

Trench backfill under areas not subject to vehicular or pedestrian traffic shall be any natural or otherwise approved material that can be compacted to the required density and contains no organic material. Backfill shall be placed in layers not to exceed twelve inches (12") in thickness and thoroughly compacted to ninety percent (90%) of the maximum density as determined by the Modified Proctor Method.

#### D. Temporary Surfacing

For paved streets or other paved areas, unless the Contractor restores the permanent pavement immediately following the completion of backfilling as the construction proceeds, the Contractor shall construct and maintain a temporary surface suitable for traffic. Unless otherwise specified or required by another agency such as the County Road Commission or MDOT, temporary surfacing shall consist of nine inches (9") of compacted MDOT 22A or 21AA and three inches (3") of cold patch asphalt surfacing which shall be rolled to correspond with the adjacent pavement. Said temporary surfacing shall be maintained in acceptable condition until the pavement is replaced.

### **4.06 Construction in Fill Sections and Embankments**

All sites shall be completely land balanced to rough grade prior to utility installation. Backfill shall be placed in layers not to exceed twelve inches (12") in thickness and thoroughly compacted to not less than



ninety-five percent (95%) of maximum density as determined by the Modified Proctor Method.

## **ARTICLE 5 – RESTORATION**

### **5.01 Green Belt**

#### **A. Landscaping**

All trees, hedges, lights, and any other landscaping not specified for removal shall be protected during construction. If removal is required to construct any portion of the Project, the item removed shall be carefully removed and replaced prior to the completion of the Project. Trees, hedges and other living plants shall be kept alive after removal and replanted. The Contractor shall be responsible to reestablish the plant and shall be responsible for construction related damage or death of the tree or plant for the life of the maintenance bond.

The restoration for the entire project includes all labor, equipment and materials to completely restore anything affected by construction to a condition equal to or better than existing prior to construction. This includes, but is not limited to mailboxes, field tiles, ditching, lawns, shrubs, trees, plantings, sprinkler systems, landscaping, fences, yard decorations, brick pavers and existing utilities.

The Contractor shall carefully determine all restoration items in the construction area and make allowance for their cost in their bid.

#### **B. Turf Restoration**

Turf restoration consists of preparing all areas disturbed by the Work, and applying topsoil, fertilizer, sod and/or seed and mulch to those areas. All work shall be performed in accordance with Section 816 of the current MDOT Standard Specifications for Construction, except as modified herein.

All materials used for Turf Restoration shall meet the requirements of Section 917 of the current MDOT Standard Specifications for Construction.

Materials included in sodding are:

- Topsoil Surface, Furn, 3 inch
- Fertilizer, Chemical Nutrient, Cl A
- Sodding
- Water, Sodding/Seeding

Materials included in seeding are:

- Topsoil Surface, Furn, 3 inch
- Fertilizer, Chemical Nutrient, Cl A
- Seeding, Mixture THM (Turf Loamy to Heavy)
- Mulch and Mulch Anchoring
- Water, Sodding/Seeding

The Contractor shall perform Turf Restoration for all areas disturbed by the Work. All Turf Restoration shall be sodding, unless seeding is authorized by the Engineer.

Areas to be sodded/seeded shall be shaped and compacted per Section 816 of the current MDOT Standard Specifications for Construction. Place topsoil to the minimum depth indicated above to meet finish grade. If the area being restored requires more than the minimum depth indicated above to meet the finish grade, this additional depth must be filled using topsoil.

All areas disturbed by the Contractor and/or Subcontractor beyond the normal construction limits of the Work shall be sodded or seeded in accordance with this requirement at the direction of the Engineer.

Watering of new sod and seed shall be in accordance with the current MDOT Standard Specifications for Construction.

Water for this use may be obtained from the local water supply only with written permission from the local water system authority.

#### **C. Irrigation System**

The Contractor shall be responsible for verifying the location of, and protecting or removing and salvaging, portions of any existing privately owned and maintained irrigation systems which are located within the construction area. In addition, the Contractor shall be responsible for the re-installation of sprinkler lines and spray-heads after the Work has been completed, prior to performing final restoration work.

Once the irrigation lines and spray heads have been located, the Contractor shall carefully cut and remove the existing lines at a point just outside the limits of earth excavation. Temporary plugs shall be inserted into all open ends of pipe, which shall be capable of withstanding any line pressure from the

remaining portion of the irrigation system which is left undisturbed.

All existing spray heads and irrigation piping may be salvaged for later use in replacing the irrigation system. The work shall be performed by Contractors familiar with all aspects of irrigation system installation with a minimum of three (3) years' experience in such line of work.

## **5.02 Aggregate Surfaces**

Construction of aggregate surfaces shall include all labor, equipment and material required to furnish, place and compact an MDOT certified aggregate surface course of the thickness and gradation specified by the local road authority having jurisdiction.

All materials shall meet the requirements of Section 902 of the current MDOT Standard Specifications for Construction. All material shall meet the gradation requirements for 23A dense graded aggregates as specified in Table 902-1 or as required by the local road authority having jurisdiction.

The work shall be performed in accordance with the requirements for Aggregate Surface Course and/or Class II Shoulder and Approaches – 23A as outlined in Sections 306 and 307 of the current MDOT Standard Specifications.

Place and compact the material in a manner that does not damage adjacent paved surfaces, if present. Maintain aggregate material in a smooth, stable condition and provide dust control. Scarify the existing surface full-width to a minimum depth of two inches (2") when adding aggregate material. Maintain compacted aggregate flush with each course of Hot Mix Asphalt (HMA) placed, if applicable. Grade aggregate material to provide positive drainage at all times. Aggregate material shall be compacted to 95 percent of the maximum unit weight at moisture content not greater than optimum.

## **5.03 Paved Surfaces**

### **A. Concrete Pavement Repair**

#### **1. General**

All work shall be done in accordance with the current Standard Specifications for Construction of the Michigan Department of Transportation (MDOT) except as otherwise modified herein.

#### **2. Sawcutting**

Where pavement is to be removed the concrete shall be saw cut full depth prior to removal. If the pavement is found to have not been saw cut full depth, the Contractor shall saw cut full depth a new joint beyond the limits of the previous saw cut joint and remove and replace the additional concrete at the Contractor's expense.

### **3. Removal**

Concrete to be removed may vary in thickness and may include HMA overlay of various thicknesses and adjacent curbs. Pavement removal shall include all labor and equipment required for sawcutting, breaking, removing and disposing the existing pavement. The Contractor shall be responsible for protecting the pavement abutting the repair area.

### **4. Preparation of Base for Concrete Pavement Repair**

Excavation shall be made to the required depth and width that will permit forming including a 4" minimum aggregate base, unless otherwise specified by the local road authority having jurisdiction. All base material shall be crushed limestone meeting the gradation requirements for 21AA dense graded aggregates as specified in MDOT Table 902-1. The material shall be shaped and compacted to the required density

### **5. Subgrade Undercutting**

Where directed by the Engineer, the Contractor shall perform subgrade undercutting to remove unsuitable subgrade material. This work shall conform to the specifications set forth in the current MDOT Standard Specifications or as directed by the Engineer.

### **6. Portland Cement Concrete Mixture**

All concrete furnished for the Work shall be a Portland cement concrete mixture that is resistant to excessive expansion caused by alkali-silica reactivity (ASR). Concrete shall generally meet the requirements of Grade P1, 5.6 sack concrete, modified as follows. The Contractor shall provide a concrete as modified by the Special Provisions.

All concrete mix designs shall be presented to the Engineer at the preconstruction

meeting along with which of the two options the Contractor will use to prevent ASR.

#### 7. Concrete Sidewalk & Drive Approaches

Construction of concrete sidewalk and/or drive approaches shall include all labor, material and equipment required to compact the grade, form, and install non-reinforced concrete. Sidewalk forms shall provide for a transverse slope of 1/4 inch per foot towards the roadway unless otherwise specified. Standard concrete walks shall be 4" thick and concrete walk/drive approaches shall be 6" thick.

#### 8. Concrete Sidewalk Ramp

Sidewalk ramps at all public and private road crossings shall be constructed barrier free with a "Detectable Warning Surface". The work shall be in accordance with current MDOT Standard plans.

The work shall also include all necessary excavation, forming, and additional non-reinforced concrete required to make the first five (5) feet of the ramp, adjacent to any pavement, 8" thick. A 1" thick expansion joint shall be placed in the concrete surface where the thickness transitions down to 4" thick.

The Contractor shall provide detectable warning surfaces as specified by the local agency having jurisdiction and shall comply with all requirements of the ADAAG, the PROWAG and the MMUTCD.

#### 9. Concrete Pavement

Concrete pavement repair shall include all labor, material and equipment required to compact the grade, form, and replace the concrete pavement and/or integral curb. Pavement thickness and reinforcing shall be as specified by the local road authority having jurisdiction.

#### 10. Concrete Curb and Gutter

Concrete curb and gutter shall include all labor, material and equipment required to compact the grade, form and replace the concrete curb and gutter. The curb shall be formed to match the existing curb shape.

#### 11. Forms

Forms shall be of wood or metal, straight and free from warp, and of sufficient strength to resist springing during the process of depositing concrete against them. The forms shall be the full depth of the concrete. Gaps between forms, overlapping forms, or forms not providing a straight edge will not be accepted. Forms shall be firmly staked to the required line and grade.

#### 12. Curing

Application of curing compound shall be required in accordance with the current MDOT Standard Specifications on all concrete pavement.

#### 13. Concrete Protection

It is the responsibility of the Contractor to protect the placed concrete from vandalism, traffic, rain, cold weather, markings or other such damage.

Contractor shall take such precautions as are necessary to protect the concrete from damage caused by rain. If concrete is being poured when rain commences, the Contractor shall stop pouring immediately and cover all concrete that may be subject to damage.

Damaged concrete will be removed and replaced at no cost to the Owner.

#### 14. Grouting

All honeycombed areas shall be grouted as directed by the Engineer prior to backfilling.

#### 15. Joints

The Contractor shall provide all labor, equipment and materials required to construct concrete pavement joints as specified by the local road authority having jurisdiction, or in accordance with Section 603 and Section 914 of the current MDOT Standard Specifications, except as modified herein.

Hook bolt sizing and spacing shall be in accordance with MDOT Standard Plans, R-44 series.

## B. Hot Mix Asphalt (HMA) Repair

### 1. General

HMA paving materials shall be furnished and placed on a prepared base to match existing lines and grades unless otherwise shown in the Contract Documents.

### 2. Sawcutting

Where HMA is to be removed the pavement shall be saw cut full depth prior to removal. If the pavement is found to have not been saw cut full depth, the Contractor shall saw cut full depth a new joint beyond the limits of the previous saw cut joint and remove and replace the additional HMA at the Contractor's expense.

### 3. Removal

HMA to be removed may vary in thickness and may include underlying concrete pavement of various thicknesses and adjacent curbs. Pavement removal shall include all labor and equipment required for sawcutting, breaking, removing and disposing the existing pavement. The Contractor shall be responsible for protecting the pavement abutting the repair area.

### 4. Preparation of Base for HMA Pavement Repair

Excavation shall be made to the required depth and width that will accommodate the aggregate base and pavement thickness required by the local road authority having jurisdiction. All base material shall be crushed limestone meeting the gradation requirements for 21AA dense graded aggregates as specified in MDOT Table 902-1. The material shall be shaped and compacted to the required density.

### 5. Subgrade Undercutting

Where directed by the Engineer, the Contractor shall perform subgrade undercutting to remove unsuitable subgrade material. This work shall conform to the specifications set forth in the current MDOT Standard Specifications or as directed by the Engineer.

### 6. Materials

All HMA Mixtures shall be in accordance with the MDOT Standard Specifications for Construction. Reclaimed asphalt will be

allowed in any of the mixes. Unless otherwise specified in the Contract Documents or by the local road authority having jurisdiction, HMA materials shall have the following minimum application rates or a total thickness equal to the existing pavement, whichever is greater:

#### a.) Roadways (8" minimum thickness).

Base Course material shall be HMA, 2C applied at a rate of 440 lbs/syd.

Leveling Course material shall be HMA, 3C applied at a rate of 220 lbs/syd.

Top Course material shall be HMA, 4C applied at a rate of 220 lbs/syd.

#### b.) Residential driveway approaches (3" minimum thickness).

Leveling Course and Top Course material shall be HMA, 36A applied in two (2) lifts consisting of a leveling course applied at a rate of 165 lbs/syd. and a top course applied at a rate of 165 lbs/syd.

#### c.) Commercial driveway approaches (6" minimum thickness).

Base and leveling course material shall be HMA, 3C, applied in two (2) lifts at a rate of 220 lbs/syd., per each lift.

Top course shall be HMA 13A applied at a rate of 220 lbs /syd.

#### d.) Parking lots (4" minimum thickness).

Leveling Course material shall be HMA, 3C applied at a rate of 275 lbs/syd.

Top Course material shall be HMA, 36A applied at a rate of 165 lbs/syd.

#### e.) Performance Grade Binder

The Performance Grade Binder for all mixtures shall be: 64-22.

f.) Aggregate Wear Index

The required Aggregate Wear Index (AWI) number shall be 220, minimum.

g.) Bond Coats

Bond Coats shall be applied in accordance with the current MDOT Standard Specifications for Construction. Bond Coats shall be SS-1h applied at a rate of 0.05 to 0.10 gal/square yard.

7. Construction

Do not place HMA or apply bond coat when moisture on the existing surface will prevent satisfactory curing.

8. HMA Protection

It is the responsibility of the Contractor to protect the placed HMA from vandalism, traffic, or other markings or damage.

Damaged HMA will be removed and replaced at no cost to the Owner.