

#20408.01



361 Morton St. Romeo MI 48065

## BIDDING DOCUMENTS:

Gilcher-Crissman Park  
Pavilion

Washington Township  
Macomb County,  
Michigan

Issued for Bids:  
April 15, 2025

Prepared By



6303 26 Mile Road, Suite 100  
Washington Township, MI 48094

**BID SET**



# Washington, Bruce and Romeo Parks and Recreation Commission

## BIDDING AND CONTRACT DOCUMENTS

*Gilcher-Crissman Park Pavilion*

GIFFELS WEBSTER PROJECT NO ..... **20408.01**

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**WASHINGTON, BRUCE AND ROMEO PARKS AND RECREATION COMMISSION  
MACOMB COUNTY, MICHIGAN  
GILCHER-CRISSMAN PARK PAVILION  
(#20408.01)**

**ADVERTISEMENT FOR BIDS**

Sealed Bids for the Gilcher-Crissman Park Pavilion Project (#20408.01) will be received, by the Washington, Bruce and Romeo Parks and Recreation Commission at the Bruce Township offices at 223 East Gates Street Romeo, MI 48065, until 2:00PM local time on a Bid Opening date of Monday, May 5, 2025, at which time the Bids received will be publicly opened and read. Any Bids received after said Bid Opening date and time will not be valid or opened and will be returned to the Bidder.

The Project consists of constructing a 5040 square foot open air pavilion at Gilcher-Crissman Park with associated concrete pavement, footings, and electrical. The contractor is responsible for jobsite cleanup and for hauling any debris created as a result of the project to an approved disposal facility (assuming Type II Landfill) per the environmental documents dated April 20, 2002, September 23, 2003, February 14, 2025 (attached). This site has been officially recognized as a "facility" in the attached environmental documents so no excavated material can be used offsite and there must be a one-foot clean topsoil cap above any contaminated fill.

Bids will be received for a single prime Contract on a lump sum and unit price basis. The Issuing Office for the Bidding Documents is as follows:

Washington, Bruce and Romeo Parks and Recreation Commission  
361 Morton St. Romeo MI 48065

For any specific questions regarding this advertisement, please contact Parks and Recreation Director Clara Russell at (586) 752-6543 or russellc@rwbpparksrec.org by 5:00PM Monday, April 28, 2025. Questions received after this time will not be answered. Prospective Bidders may obtain copies of the Bidding Documents from the Issuing Office as described below.

All Bidding Documents and addenda will be available on the internet starting April 15, 2025 where they can be viewed and downloaded electronically.

Bid Documents are available through the following organization(s):

Michigan Inter-governmental Trade Network  
<https://www.bidnetdirect.com/mitn>

Distribution of the Bid Documents through any means of delivery should be coordinated by the Bidder at their own cost. The date that the Bidding Documents are transmitted from the above organization(s) will be considered the Bidder's date of receipt of the Bidding Documents. Partial sets of the Bidding Documents will not be available.

Sealed Bids shall be submitted on the forms provided in the Bid Documents. Bid security shall be furnished in accordance with the Instructions to Bidders, payable to the Washington, Bruce and Romeo Parks and Recreation Commission.

Each Bidder agrees to waive any claim it has or may have against the Owner, Engineer, and their respective Employees, arising out of or in connection with the administration, evaluation, or recommendation of any Bid.

The Owner reserves the right to accept or reject any or all base or alternative Bid items of work, in whole or in part, and to waive any informalities, therein when such waiver is in the interest of the Owner, and to award the Contract to other than the low Bidder.

Bids shall remain firm for a period of 120 days.

Owner: Washington, Bruce, and Romeo Parks and Recreation Commission  
By: Clara Russell  
Title: Parks and Recreation Director  
Date: April 15, 2025

+ + END OF ADVERTISEMENT FOR BIDS + +

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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.
  - B. *Owner* – One who the bid is submitted to, Washington, Bruce and Romeo Parks and Recreation Commission.
  - C. *Bidder* – One who submits the Bid directly to the Owner as distinct from a sub-bidder, who submits a bid to a Bidder.
  - D. *Successful Bidder* – The lowest, responsible, and responsive Bidder to whom the Owner (on the basis of the Owner’s evaluation as herein provided) makes an award.

**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, Bidder shall submit with its Bid (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. Evidence of Bidder’s authority to do business in the state where the Project is located.
  - B. Bidder’s state or other contractor license number, if applicable.
  - C. Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, “Subcontractors, Suppliers, and Others.”
  - D. Other required information regarding qualifications.
- 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. These reports and drawings, if they exist, are available by request only.
  - 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, if any, 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, if any, 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 will be held with details given in Section 00 31 13 Preliminary Schedules. Bidders are encouraged to submit any questions or comments in writing to the contact person indicated on the Advertisement for Bids.

#### **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 delivered to all parties recorded as having received the Bidding Documents. Questions received less than five 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 as deemed advisable by the Owner or Engineer.

**ARTICLE 8 – BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five 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 *fifteen (15)* days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. 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 91 days after the Bid opening, 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, 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, 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 the following portions of the Work: Pavilion Building
- 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, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 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 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; additional copies may be obtained from the Engineer.
- A. All blanks on the Bid Form shall be completed in ink or typed 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 seal shall be affixed and attested by the corporate secretary or an assistant corporate secretary. The corporate address and state of incorporation shall be shown.

- A. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 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 typed or 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.

##### **14.03 *Allowances***

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

**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 location indicated in the advertisement or invitation to bid.
- 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 publically. A Bid tabulation 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 believes would not be in the best interest of the Project to make an award to that bidder

or finds, after reasonable inquiry and evaluation, to not be responsible whether, including without limitation, because the Bid is not reasonable, the Bidder is unqualified or of doubtful financial ability to meet any other pertinent standard, or criteria established by the Owner. 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 and to negotiate contract terms with the bidder.

- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid whose evaluation by the Owner indicates to the Owner that the award will be in the best interests of the Project. Bid alternates will be considered in making this evaluation and shall be a mandatory requirement for a responsive Bidder. The Township reserves the right to accept or reject any or all base or alternative Bid items of work, in whole or in part, and to waive any informalities, therein when such waiver is in the interest of the Owner, and to award the contract to other than the low Bidder.

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.
- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidders, 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 and may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Bidding Documents. Owner also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 19.05 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

## 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 insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required 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 15 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 10 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, including a complete set of Drawings with appropriate identification as stated in Paragraph 2.02 of the General Conditions.



**PRELIMINARY SCHEDULES**

Start site work after receiving the Notice to Proceed. The date indicated on the Notice to Proceed is the date at which Contract times commence. In no case shall site work be commenced prior to receipt of a formal Notice to Proceed by the Owner.

The tentative scheduled dates of activity are as follows:

Tuesday, April 15, 2025	Bid Package available for pickup (Bid issue date)
Monday, April 28, 2025	Pre-Bid opening questions due to issuing office by 5:00PM
Monday, May 5, 2025	Bids due; Bid Opening at 2:00PM
Thursday, May 15, 2025	Owner awards Contract and issues Notice of Award
Monday, May 19, 2025	Owner delivers three unsigned books to Bidder for review and signature
Tuesday, June 3, 2025	Contractor delivers bonds, insurance, and signed books to Owner
Friday, June 13, 2025	Owner signs Contract ( <b>Effective Date of the Contract</b> ), delivering one Project Manual to Contractor and one to Engineer
Friday, June 20, 2025	Pre-Construction Meeting: Owner issues Notice To Proceed stating date of Contract Time Commencement
Friday, June 20, 2025	Contract Times Commence
Monday, December 15, 2025	Substantial Completion Date
Thursday, April 30, 2026	Final Completion Date

Perspective Bidders will be required to participate in the pre-construction and (if applicable) pre-bid meetings with Owner and Engineering representatives to discuss a detailed Progress Schedule. The Owner will arrange the time and place for the meetings. The Progress Schedule shall include, at a minimum, the controlling work items for the completion of the project, the planned dates that these work items will be controlling operations, and the dates of Substantial and Final Completion.

Note that the above tentative schedule does not preclude the Owner from utilizing other requirements of the project related to timing in the Instructions to Bidders and General Conditions. Furthermore, Contractors shall coordinate all work with the Owner to ensure conflicts between this project and any other concurrent projects are avoided. Failure on the part of the Contractor to carry out provisions of this section as established may be sufficient cause to prevent bidding on future projects with the Owner.





**GEOTECHNICAL DATA**

The following reports should be used by the contractor to determine environmental safety procedures during construction:

1. Stratford Park BEA prepared by McDowell & Associates on April 20, 1999 (8 pages).
2. Stratford Park Section 7a Compliance Analysis prepared by McDowell & Associates on April 20, 1999 (4 pages).
3. Letter of Determination prepared by The Michigan Department of Environmental Quality (now Environment, Great Lakes, and Energy) on July 22, 1999 (2 pages).
4. Status Letter prepared by McDowell & Associates on October 17, 2002 (2 pages).
5. Letter of Land Acquisition Recommendation with Enclosures prepared by Professional Engineering Associates, Inc (now PEA Group) on September 23, 2003 (20 pages).
6. Risk Mitigation Plan for Construction Activities prepared by Atlas Technical Consultants, LLC on February 14, 2025 (12 pages).



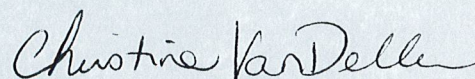
1.0 IDENTIFICATION OF AUTHOR AND DATE OF BEA COMPLETION

This Baseline Environmental Assessment has been completed for an approximate twenty-one acre parcel located in Washington Township, Michigan.

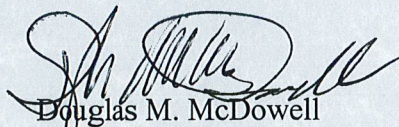
If you have any questions regarding the information contained in this Baseline Environmental Assessment completed on April 20, 1999, or if we can be of further service to you in any respect, please do not hesitate to call.

Very truly yours,

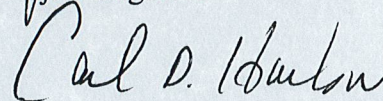
McDOWELL & ASSOCIATES



Christine Van Dellen  
Environmental Scientist  
(Author)



Douglas M. McDowell  
Project Engineer



Carl D. Harlow, P.E.  
Environmental Manager

CVD/DM/CH/er  
4/20/99



## 2.0 INTRODUCTION

This Baseline Environmental Assessment (BEA) has been completed for an approximate twenty-one (21) acre parcel located on the north side of West 29 Mile Road in Washington Township, Michigan. The subject property contains a northern orchard and southern orchard. This Baseline Environmental Assessment is intended to meet the Category N Criteria as specified in the revised Interim Minimum Technical Standards published by the Michigan Department of Environmental Quality (MDEQ) dated March 11, 1999.

## 2.1 BACKGROUND

McDowell & Associates completed a Phase I Environmental Site Assessment and limited Phase II Environmental Site Assessment on the subject property and adjoining property on December 2, 1996. That report was for an approximate 172 acre parcel of which the subject property was included. As a part of that report, three (3) soil samples were obtained from the orchards on the subject property for chemical testing. That report identified elevated arsenic levels in soil above the current MDEQ Generic Residential Direct Contact criterion in the northern orchard located on the subject property.

On September 24, 1997, a report titled, "Results of Soil Sampling and Analyses" was completed for the subject property. That report identified arsenic at concentrations above MDEQ Generic Residential Criteria in the vicinity of the former orchard.

A third report was completed by McDowell & Associates titled "Results of Additional Soil Sampling and Analyses," dated February 10, 1998. A total of nineteen (19) additional soil samples were obtained in the area of the orchard. Results of that investigation indicated that the horizontal extent of soil with elevated arsenic above Site Specific Background calculated for the site was smaller than previously estimated in the September 24, 1997 report.

Based on information obtained during completion of the Phase I Environmental Site Assessment, past use of the property has been for an orchard. The northern orchard on the subject property has existed since the early 1900s. Farm buildings and agricultural land have also existed historically on the subject property.

## 2.2 FUTURE USE

Future intended use of the subject property by the General Township of Washington is for municipal purposes. According to the current conceptual plan, the property is proposed for a municipal building with landscaped areas and parking lots. Areas which surround the subject property are proposed for soccer fields, baseball diamonds, and a residential subdivision. It is possible that the surrounding properties may be developed prior to the construction of the building, parking lot and landscaped areas on the subject property. However, the surrounding properties will



not be developed until the areas on the subject property with elevated arsenic levels are either fenced or capped with at least six inches (6") of topsoil and either seeded or sodded. The cap or fence on the subject property will be maintained by the General Township of Washington or their representative to address potential direct contact concerns.

### 3.0 PROPERTY DESCRIPTION AND INTENDED HAZARDOUS SUBSTANCE USE

A Site Location Map and copy of the legal description provided by the client are included as Attachment I. A Sample Location Map is included as Attachment II. The Sample Location Map shows an estimate of the extent of soil with elevated arsenic on the subject property. Attachment III is a detailed map of the subject property provided by AEW, Inc. surveyors dated March 13, 1999, and the conceptual plan which shows the subject property and surrounding properties' proposed development.

The former farm structures located on the subject property have been demolished. The associated concrete footings have not been removed.

Two (2) orchards are located on the subject property. The northern orchard has existed since the early 1900s.

Intended future use of the subject property will not include use of significant quantities of hazardous substance. This is a basis for being able to distinguish existing contamination from a potential new release.

### 4.0 KNOWN CONTAMINATION

Fifty-eight (58) soil samples have been collected from the subject property by McDowell & Associates. Samples were taken from depths ranging from zero inches (0") to eighteen inches (18"). Twelve (12) soil samples were also obtained on the subject property by Carlo Environmental Technologies, Inc. in January of 1997. A copy of their Limited Subsurface Investigation is included as an attachment to McDowell & Associates' Soil Sampling Result report dated September 24, 1997. Table 1 - Summary of Arsenic Analysis shows the results of all soil sampling conducted on the subject property by McDowell & Associates and Carlo Environmental Technologies, Inc. Based upon all soil samples collected on the subject property, it appears that the vertical extent of soils with elevated arsenic levels are confined to the upper eighteen inches (18"), diminishing with depth. The horizontal extent of soils with elevated arsenic levels appear to be confined to primarily the northern orchard, with a small pocket of such soils located south of this orchard.

Results of the several soil sampling events conducted by McDowell & Associates indicate that fifteen (15) of the fifty-eight (58) samples collected exceed Residential Direct Contact criterion, the Drinking Water criterion of the Groundwater Protection Criteria, and Site Specific Background Levels. These samples are located in the area of the northern orchard. Five (5) of the fifty-eight



(58) samples collected exceed Residential Direct Contact criterion and Site Specific Background Levels. These samples are located primarily in the northern orchard and just south of this orchard. No samples obtained on the subject property exceed the Groundwater/Surface Water Interface criterion or Groundwater Contact criterion.

Results of soil sampling conducted by Carlo Environmental, Inc. did not show any concentrations of arsenic in soil above Site Specific Background on the subject property.

## 5.0 LIKELIHOOD OF OTHER CONTAMINATION

The Phase I Environmental Site Assessment identified former farm buildings on the subject property. It is unknown what the farm buildings were historically in use for or what type of farm equipment and supplies were stored in these buildings. No visual evidence of contamination was observed during the field reconnaissance in the area of these buildings.

## 6.0 ALTERNATIVE APPROACHES

No alternative approaches have been implemented for this BEA.

## 7.0 CONCLUSIONS

McDowell & Associates has completed a Category N Baseline Environmental Assessment for the subject property. Arsenic was detected in shallow soils on the subject property primarily in the vicinity of the northern orchard at levels which exceed the Site Specific Background Level, MDEQ Generic Residential Direct Contact criterion and the Drinking Water criterion of the Groundwater Protection Criteria. This site meets the MDEQ criteria as a "facility" as defined in the Instructions for Preparing and Disclosing Baseline Environmental Assessments and Section 7a Compliance Analysis dated March 11, 1999.

Future intended use of the subject property by the General Township of Washington will be for a municipal building. The subject property will be bounded by soccer fields, baseball diamonds and a residential subdivision. Future intended use of the subject property by the General Township of Washington will not include significant use of hazardous substances. This is a basis for being able to distinguish existing contamination from potential future releases.

## 7.1 LIMITATIONS

This Baseline Environmental Assessment was completed by McDowell & Associates on behalf of the General Township of Washington. Any representation in this report as to future intended use



or uses of the subject property has been indicated by the General Township of Washington's representatives. McDowell & Associates is not in control of future uses of the subject property.

## 8.0 REFERENCES

See attached Bibliography.

## 9.0 ATTACHMENTS

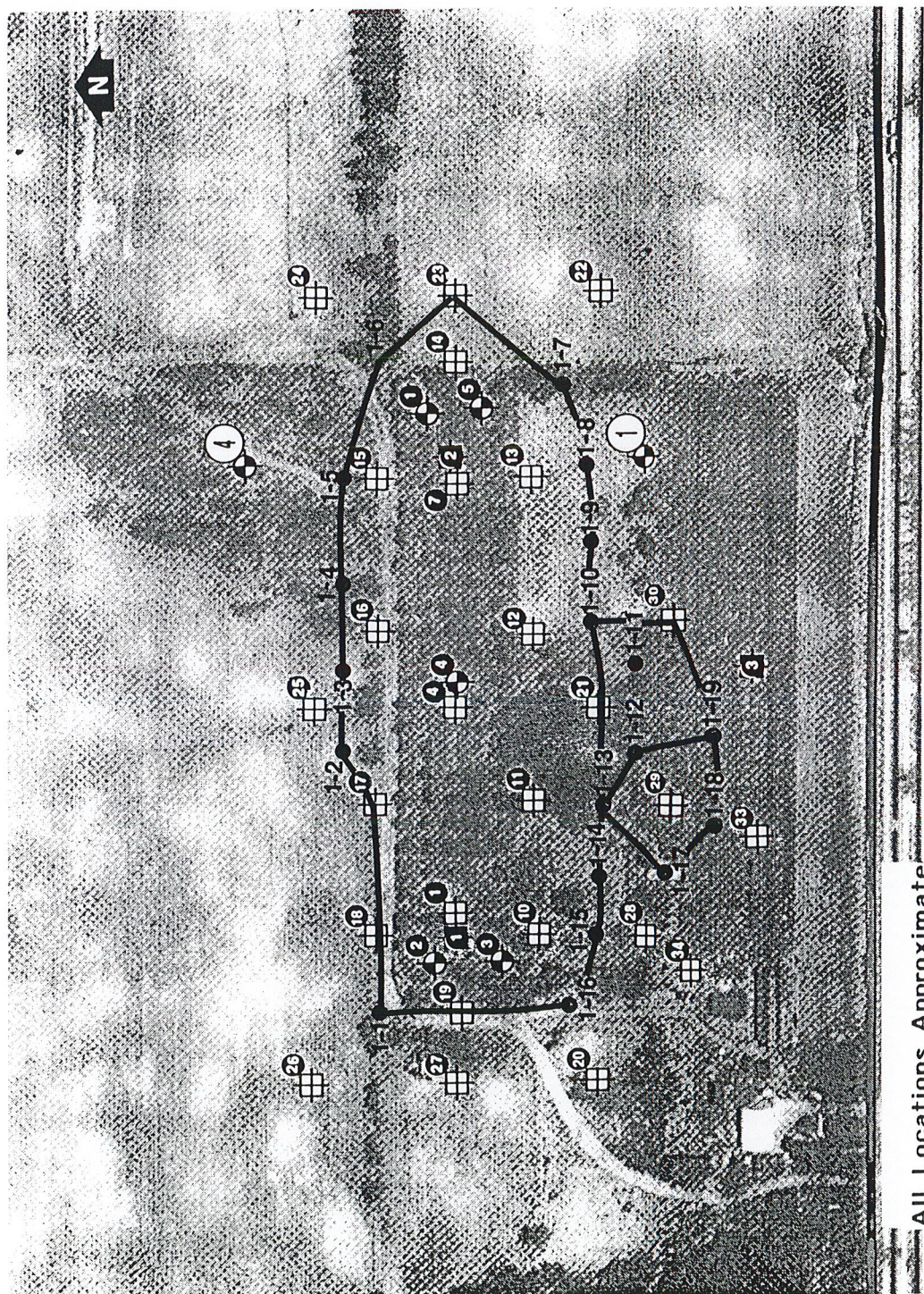
Table 1. Summary of Arsenic Analysis

Figure 1. Exposure Pathway Analysis

- I. Site Location Map
- II. Sample Location Map
- III. Surveyor Detailed Map & Conceptual Plan
- IV. Section 7a Compliance Analysis
- V. Report "Phase I & Limited Phase II Environmental Site Assessment" by McDowell & Associates, dated December 2, 1996
- VI. Report "Results of Soil Sampling and Analyses" by McDowell & Associates, dated September 24, 1997
- VII. Report "Results of Additional Soil Sampling & Analyses" by McDowell & Associates, dated February 10, 1998



Soil Sampling and Analyses  
 6491 W. 29 Mile Road  
 Job Number: 96-11188



All Locations Approximate

# Sample Location Map

- CE Boring
- Initial Sampling Locations
- ▣ Subsequent Sampling
- Sampling Conducted on 10/10/00

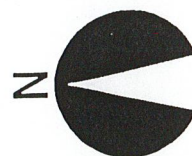




TABLE 1 - SUMMARY OF ARSENIC ANALYSES

McDowell Job 99-11846  
CVD

Sample	Description	Location	Matrix	Arsenic
1	0-6"	Within Orchard	Soil	58
2	6"-12"	Within Orchard	Soil	62
3	12"-18"	Within Orchard	Soil	51
4	0-6"	Within Orchard	Soil	28
5	6"-12"	Within Orchard	Soil	13
6	12"-18"	Within Orchard	Soil	14
7	0-6"	Within Orchard	Soil	38
8	6"-12"	Within Orchard	Soil	61
9	12"-18"	Within Orchard	Soil	39
10	0-6"	South Boundary	Soil	26
11	0-6"	South Boundary	Soil	36
12	0-6"	South Boundary	Soil	22
13	0-6"	South Boundary	Soil	28
14	0-6"	East Boundary	Soil	14
15	0-6"	North Boundary	Soil	29
16	0-6"	North Boundary	Soil	38
17	0-6"	North Boundary	Soil	17
18	0-6"	North Boundary	Soil	15
19	0-6"	West Boundary	Soil	6.9
20	0-6"	Southwest	Soil	8.5
21	0-6"	South	Soil	26
22	0-6"	Southeast	Soil	7.4
23	0-6"	East	Soil	8.1
24	0-6"	Northeast	Soil	14
25	0-6"	North	Soil	8.7
26	0-6"	Northwest	Soil	11
27	0-6"	West	Soil	21
27-A	0-6"	West	Soil	4.3
28	0-6"	Far Southwest	Soil	4.2
29	0-6"	Far South	Soil	17
30	0-6"	Far Southeast	Soil	4.4
33	0-6"	Far S. Boundary	Soil	2.8
34	0-6"	Far S. Boundary	Soil	4
29-1	0-6"	Same as #29	Soil	15
29-2	0-6"	Same as #29	Soil	15
29-3	0-6"	Same as #29	Soil	22

MDEQ Generic Statewide Default Background Levels	5.8
MDEQ Generic Residential Direct Contact Criteria	6.6
Site Specific Background Calculated from Carlo Environmental Background Samples	15.68
MDEQ Generic Residential Ambient Air Inhalation Criteria	720
MDEQ Generic Residential Groundwater Protection Criteria	23/70/2,200

Sample	Description	Location	Matrix	Arsenic
CE-1	0-2'	Northeast Corner	Soil	6.3
CE-1	3'-5'	Northeast Corner	Soil	11
CE-2	0-2'	Northwest Corner	Soil	12
CE-2	3'-5'	Northwest Corner	Soil	7.1
CE-3	0-2'	Southwest Corner	Soil	12
CE-3	3'-5'	Southwest Corner	Soil	4.2
CE-4	0-2'	Center	Soil	5.8
CE-4	3'-5'	Center	Soil	5
CE-4	6'-7.5'	Center	Soil	7.7
CE-4	8.5'-10'	Center	Soil	14
CE-5	0-2'	Southeast Corner	Soil	10
CE-5	3'-5'	Southeast Corner	Soil	11
1-1	0-6"	NW Corner	Soil	2.1
1-2	0-6"	NE of #17	Soil	2.1
1-3	0-6"	SE of #25	Soil	3.7
1-4	0-6"	NE of #16	Soil	5
1-5	0-6"	NE of #15	Soil	3.1
1-6	0-6"	North of #14	Soil	4.9
1-7	0-6"	South of #14	Soil	2.5
1-8	0-6"	South of #13	Soil	11
1-9	0-6"	West of 1-8	Soil	8.7
1-10	0-6"	South of #12	Soil	6.9
1-11	0-6"	SE of #21	Soil	17
1-12	0-6"	West of 1-11	Soil	8.6
1-13	0-6"	South of #11	Soil	3.6
1-14	0-6"	SE of #11	Soil	2
1-15	0-6"	South of #10	Soil	5.1
1-16	0-6"	SW of #10	Soil	1.8
1-17	0-6"	West of 29	Soil	3
1-18	0-6"	South of 29	Soil	10
1-19	0-6"	SE of 29	Soil	3.3
1-1*	0-6"	West Center	Soil	39
1-2*	0-6"	East Center	Soil	44
1-3*	0-6"	South Orchard	Soil	6.4

MDEQ Generic Statewide Default Background Levels	5.8
MDEQ Generic Residential Direct Contact Criteria	6.6
Site Specific Background Calculated from Carlo Environmental Background Samples	15.68
MDEQ Generic Residential Ambient Air Inhalation Criteria	720
MDEQ Generic Residential Groundwater Protection Criteria	23/70/2,200

- NOTES:
1. All values expressed in mg/Kg.
  2. MDEQ Residential Generic Statewide Default Background, Direct Contact, Ambient Air Inhalation, and Groundwater Protection Criteria from Part 201 Generic Cleanup Criteria and Screening Levels "Soil: Residential and Commercial 1" dated Sept. 1998.
  3. Most rigorous of Ambient Air Criteria presented.
  4. Groundwater Protection Criteria presented as DW, GSI, and GCC.
  5. Boldface values exceed Site Specific Background calculated for the site.
  6. Values shown thus 

--

 exceed Residential Direct Contact criteria and Site Specific Background.
  7. Values shown thus 

--

 exceed Residential Direct Contact, Groundwater Protection criteria and Site Specific Background.
  8. CE Samples from Carlo Environmental Borings and Sampling 1/15/97.
  9. \* = Samples obtained during initial site visit 11/19/96.




SECTION 7a COMPLIANCE ANALYSIS  
FOR AN APPROXIMATE 21 ACRE PARCEL  
LOCATED AT WEST 29 MILE ROAD IN  
WASHINGTON TOWNSHIP, MACOMB COUNTY, MICHIGAN  
REQUESTED IN CONJUNCTION WITH A BASELINE ENVIRONMENTAL ASSESSMENT  
DATED APRIL 20, 1999

1.0 DETAILED CHARACTERISTICS OF PROPERTY USE

The subject property currently consists of two (2) orchards with smaller portions of vacant land. The orchards consist of a northern orchard and a southern orchard. The northern orchard has existed since the early 1900s. Historically, a few farm buildings have also existed on the subject property. These farm buildings have been demolished with some concrete footings remaining. Proposed use of the subject property is for municipal purposes. According to the current conceptual plan, the General Township of Washington is planning to build a municipal building on the subject property with surrounding landscaped areas and parking lots. Areas which surround the subject property are to be developed into soccer fields, baseball diamonds, and a residential subdivision. The conceptual plan which details the proposed building to be constructed on the subject property and also shows proposed surrounding land uses has been included as a part of the Baseline Environmental Assessment.

Currently, the subject property does not contain any utilities or infrastructure, with the exception of the building footings.

 Prior to the construction of the municipal building, the areas on the subject property with elevated arsenic levels will either be fenced or cleared and capped with a minimum of six inches (6") of topsoil and either sod or seed. The later process will involve bringing soils to the subject property and grading the subject property.

The municipal building to be constructed on the subject property is likely to be constructed within a few years following the fencing or capping of the portion of the subject property with elevated arsenic levels.

Current plans do not call for the removal of soils from the subject property. If such plans should change and it is necessary to remove soils from areas of elevated arsenic levels, soils will be characterized to ensure proper disposal.

2.0 HAZARDOUS SUBSTANCE INFORMATION

As described in the preceding Baseline Environmental Assessment, arsenic was detected in surface soils on the subject property above current MDEQ Residential Direct Contact criterion, the Drinking Water criterion of the Groundwater Protection Criteria, and the calculated Site Specific



Background Level. The elevated levels of arsenic are located primarily within the northern orchard and within a small pocket south of this orchard. The vertical extent of elevated arsenic appears confined to the upper eighteen inches (18") of the soil, diminishing with increased depth.

Proposed use of the subject property is to construct a municipal building with landscaped areas and parking lots. This building is planned to be constructed within the next few years. Prior to the construction of the building, the area of the subject property with elevated arsenic levels is to be fenced or cleared of the orchard trees, capped with a minimum of six inches (6") of topsoil, and either seeded or sodded.

## 2.1 EXPOSURE PATHWAY ANALYSIS

One (1) potential exposure pathway source was identified during the limited Phase II Environmental Site Assessment and subsequent sampling events and includes shallow soils in the vicinity of the northern orchard and in the small area south of this orchard. A map showing the estimated horizontal extent of soil with elevated arsenic is included within the preceding Baseline Environmental Assessment.

Potential transport mechanisms include: direct contact; wind erosion and atmospheric dispersion; and leaching and groundwater transport.

Potential exposure pathways consist of soil ingestion/absorption and potable water supply.

Potential receptors include residential, commercial, and construction workers for direct contact only. The potable water supply for the subject property is municipal utilities. Groundwater will not be utilized on the subject property for drinking water purposes. Thus, the potable water supply exposure pathway does not appear to be of concern for this site.

Exposure pathways are summarized on the accompanying Figure 1.

## 3.0 PLAN FOR RESPONSE ACTIVITIES

The following measures will be implemented for the subject property to limit exposures prior to construction of the municipal building:

- a. Areas with elevated arsenic levels will either be fenced or capped with a minimum of six inches (6") of topsoil followed by either seed or sod.
- b. Maintain cap on subject property.

During construction of the proposed municipal building, the following measures will be implemented to limit exposure during construction:

- c. Prepare a proper Health and Safety Plan prior to construction.
- d. Restrict public access to the construction site with fencing.
- e. Employ dust control measures during construction.

Following construction of the municipal building, the following measures will be implemented to limit exposures:

- f. Maintain all caps on site. Areas with no structures maintain with six inches (6") of topsoil and either seed or sod.
- g. Utilize municipal drinking water supply.

The above pre-construction measures will be implemented prior to the construction of the surrounding properties. Surrounding properties are proposed for baseball diamonds, soccer fields, and a residential subdivision. The construction of the municipal building on the subject property, in which the during-construction measures will be implemented, is to occur within the next few years. The exact date of construction of the building is unknown.

#### 4.0 EVALUATION AND DEMONSTRATION OF COMPLIANCE WITH SECTION 7a OBLIGATIONS

This Section 7a Compliance Analysis is intended to address the General Township of Washington's responsibility to prevent exacerbation of existing contamination, provide due care to workers and future residents of the subject property, and take reasonable precautions against the reasonably foreseeable acts or omissions of third parties.

##### 4.1 EXACERBATION

Proposed use of the subject property will provide for the capping of existing conditions of potential environmental concern. Initially, areas with elevated arsenic levels will be fenced or capped and maintained followed by the construction of a municipal building with related parking lots and landscaped areas. Future intended use of the subject property will cap and prevent direct contact with current shallow soils. Proposed development activities involve a reasonable approach toward dealing with the elevated arsenic levels on the subject property. Removal of such soils from the subject property to depths between three feet (3') and four feet (4') below the existing ground surface would not be economically feasible.

Current plans do not call for removal of soil on the subject property. However, if it is necessary to remove soils from areas with elevated arsenic levels for construction purposes, soils will be characterized to ensure proper disposal.



#### 4.2 DUE CARE

Exposure to shallow soils by non-construction related personnel will be discouraged prior to the construction of the municipal building by capping and maintaining areas on the subject property with elevated arsenic levels. During construction activities, exposure to shallow soils by non-construction related personnel will be discouraged by fencing surrounding the subject property. Potential exposure to windblown contaminants during construction activities will be mitigated through use of dust control measures during construction activities.

After construction of the municipal building is complete, the building, paved areas and landscaped areas will be maintained as a part of routine site maintenance.

#### 4.3 REASONABLE PRECAUTIONS

The possibility exists that non-construction related personnel will attempt to enter the site during construction activities. Public access to the construction site will be restricted by fencing.

## STATE OF MICHIGAN



JOHN ENGLER, Governor

## DEPARTMENT OF ENVIRONMENTAL QUALITY

*"Better Service for a Better Environment"*

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48905-7973

INTERNET: [www.deq.state.mi.us](http://www.deq.state.mi.us)

RUSSELL J. HARDING, Director

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION  
KNAPPS CENTRE  
PO BOX 30426  
LANSING MI 48909-7926

RECEIVED ERD S.E. MICH.

JUL 28 1999

July 22, 1999

DETERMINATION ON  
BASELINE ENVIRONMENTAL ASSESSMENT PETITION  
INCLUDING COMPLIANCE WITH SECTION 20107a

Petitioner:

Petition #: P99-00931-LV

General Township of Washington  
Attention: Mr. Gary Kirsh  
P.O. Box 94067  
57900 Van Dyke Road  
Washington Township, MI 48094

Determination:

BEA - Affirmed  
20107a Obligations -Affirmed

The Department of Environmental Quality (DEQ) has reviewed Petition P99-00931-LV for a determination on a Baseline Environmental Assessment (BEA). In conjunction with the BEA, you requested DEQ's opinion of whether your Section 20107a Compliance Analysis (Section 7a CA), if implemented as proposed, will be consistent with the due care obligations set forth at Section 20107a of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended, MCL 324.20107a. The petition was submitted pursuant to Section 20129a of the NREPA, MCL 324.20129a. Based on the petition, including representations made in the affidavits, the BEA, which was completed on May 21, 1999, the Section 7a CA, and supporting materials submitted, the DEQ has determined that the BEA is affirmed and the Section 7a CA is affirmed.

This determination affirms that the BEA is adequate for the purpose of obtaining an exemption from liability pursuant to Section 20126(1)(c). In making this determination, the DEQ is not making any other findings about whether the petitioner is liable or covered by any other exemption from liability under Part 201. This affirmative determination does not alter liability with regard to a subsequent release or threat of release or any exacerbation of existing conditions. The affirmative determination is only for the person and property identified in the petition. The use of the property and any response activity undertaken must be in accordance with the requirements of all applicable or relevant and appropriate state and federal laws and regulations. These affirmative determinations are conditioned on the timely and satisfactory completion of the response activities described in the petition. Pursuant to R 299.5919(2), if the petitioner sells or transfers the property, the petitioner is required to disclose the BEA to a subsequent owner or operator in order to be entitled to an exemption from liability.

This affirmative determination is based on the proposed property use and hazardous substance use identified in the BEA and Section 7a CA. The DEQ will maintain an administrative record of each BEA and Section 7a CA. If at any time you provide the DEQ with post-BEA information related to your BEA or Section 7a CA, the DEQ will retain such information with the administrative record. Such post-BEA information will not be considered part of the BEA or Section 7a CA and acceptance of such information by the DEQ should in no way be construed to mean the DEQ will review or advise the petitioner regarding the adequacy of such information for any purpose.



General Township of Washington

2

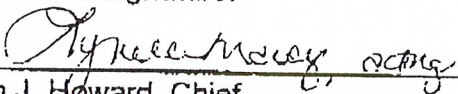
July 22, 1999

The Section 7a CA is not a work plan for the purpose of authorizing tax capture pursuant to Section 15(1) the Brownfield Redevelopment Financing Act, 1996 PA 381, MCL 125.2651, et seq. In this determination, the DEQ is making no judgment regarding whether the proposed actions are necessary or cost effective, only that the proposed use of the facility satisfies the petitioner's obligations under Section 7a.

Notwithstanding this affirmative determination, the petitioner may have responsibility under other laws, including, but not limited to Part 111 (Hazardous Waste Management), Part 211 (Underground Storage Tank Regulations), Part 213 (Leaking Underground Storage Tanks), and Part 615 (Supervisor of Wells) of the NREPA.

The BEA constitutes a response activity, consequently, this determination is subject to Section 20137(4) and (5) of the NREPA.

Authorized signature:

  
Alan J. Howard, Chief  
Environmental Response Division

7/22/99

Date

Attachment



## **McDowell & Associates**

*Geotechnical, Environmental & Hydrogeological Services • Materials Testing & Inspection*

21355 Hatcher Avenue • Ferndale, MI 48220  
Phone: (248) 399-2066 • Fax: (248) 399-2157

October 17, 2002

Charter Township of Washington  
57900 Van Dyke Avenue  
Washington Township, Michigan 48094

Job No. 99-11846

Attention: Mr. Gary Kirsh, Supervisor

Subject: **Approximate 21 Acre Parcel**  
Vicinity of Former 64911 West 29 Mile Road  
Washington Township, Macomb County, Michigan

Dear Mr. Kirsh:

At the request of Mr. Richard Ives of Stratford Washington, L.L.C., we have completed this letter to describe the current status of the former orchard at the subject property and potential next steps.

McDowell & Associates completed a Baseline Environmental Assessment with Section 7a Compliance Analysis (or Due Care Plan) for the Charter Township of Washington on April 20, 1999. The BEA and Section 7a Compliance Analysis received Affirmative Determination from the Michigan Department of Environmental Quality on July 22, 1999.

A copy of the Section 7a Compliance Analysis is attached.

Since completion of the BEA and Section 7a Compliance Analysis and receipt of Affirmative Determination, the subject property has been cleared and capped with approximately one foot (1') of topsoil and seeded as described in the Compliance Analysis.

It is understood that development plans for Washington Township are not available for the subject property. Once development plans are available, the plans should be reviewed in relation to the Compliance Analysis. McDowell & Associates can provide specific recommendations to the Township to ensure compliance with Part 201. If future development plans differ from those described in the Compliance Analysis, an addendum to the BEA with Section 7a Compliance Analysis can be completed. Current DEQ guidelines do not provide for DEQ review of such an addendum as the addendum date would be greater than six (6) months from the date of BEA completion.

### **Mid-Michigan Office**

3730 James Savage Road • Midland, MI 48642  
Phone: (989) 496-3610 • Fax: (989) 496-3190

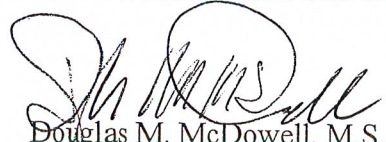
It is understood that Washington Township intends to take title to the subject property within the next sixty (60) days. Prior to taking title we would suggest the following:

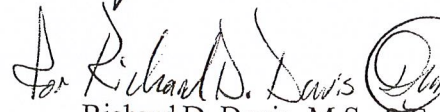
- 1). Sample the cap which was placed upon the orchard area and the perimeter of the cap and subject samples for chemical testing to determine the presence of arsenic. This data will allow for demonstration that the cap is in place and that elevated arsenic concentrations are not exposed.
- 2). Maintain the cap on the subject property to ensure that erosion or other events do not expose underlying topsoil. This maintenance program should involve bi-annual or annual inspections by qualified personnel. McDowell & Associates could provide this service. It could also be provided by the Township's engineer or in house personnel.
- 3). Provide future development and construction plans for the subject property to McDowell & Associates for consideration of implications to the Township's obligations under Part 201.

If you have questions regarding the information contained with this letter, please do not hesitate to call.

Very truly yours,

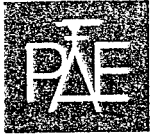
McDOWELL & ASSOCIATES

  
Douglas M. McDowell, M.S.  
Environmental Manager

  
Richard D. Davis, M.S., P.E.  
Midland Division Manager

DMM/kj

Attachments: Section 7a Compliance Analysis,  
Dated April 20, 1999



**PROFESSIONAL ENGINEERING ASSOCIATES, INC.**

*CONSULTING CIVIL ENGINEERS / LAND SURVEYORS / LAND PLANNERS*

**Corporate Office** 2430 Rochester Court, Suite 100, Troy, MI 48063-1872  
(248) 689-9090      [www.peainc.com](http://www.peainc.com)      Fax (248) 689-1044

*Joseph M. Muller, PE  
President/CEO*

*James P. Butler, PE  
Vice President*

*David E. Cole, PS  
Vice President*

*Wendy E. Graham, PE  
Vice President*

*John C. Seelbach, PE, PS  
Vice President*

September 23, 2003  
PEA Job No. WA1602

Mr. Gary Kirsh  
Supervisor  
Washington Township  
57900 Van Dyke  
P.O. Box 94067  
Washington, MI 48094-4067

**RE:    STRATFORD WASHINGTON, LLC  
       LAND DONATION**

Dear Gary:

We have reviewed the environmental information regarding the land donation at Stratford. Specifically, we reviewed the August 1, 2003 letter from McDowell & Associates and the associated soil sample tests that we received on September 19, 2003. According to the information provided to us, the soil cap referenced in the Baseline Environmental Assessment Petition Section 7a dated April 20, 1999 for the subject property has been completed. As indicated in the McDowell & Associates letter, the soil tests indicate that the exposed soils in the remediation area are now below the Facility Specific Background Level for Arsenic as calculated for the site.

We recommend the Township proceed with the Land Acquisition process.

Please note that the remediation of the site includes a soil cap that encapsulates the contaminated soils. As noted in the Baseline Environmental Assessment Petition Section 7a, the soil cap must be maintained to ensure that the underlying soils do not become exposed. The soil cap should be inspected by qualified personnel at least annually. Any future construction or excavations for grading or development of the site should be carried out using current State and Federal safety methods for contaminated sites including the minimum requirements stated in the Baseline Environmental Assessment Petition Section 7a 3.0 c to e. If the proposed development of the site includes digging into the protective cap at all, the cap should be stripped away and the contaminated soils removed and disposed of by prescribed methods that may include disposal at an approved dump or placed in a berm and then capped. The excavated area should then be recapped.

MR. GARY KIRSH  
WASHINGTON TOWNSHIP  
RE: STRATFORD WASHINGTON LLC

SEPTEMBER 23, 2003  
PEA JOB NO. WA1602  
PAGE 2

PEA would be pleased to prepare the site and construction plans for the proposed park development. Please let us know if you would like to meet and begin with the design process. If you have any questions, please don't hesitate to call.

Very truly yours,

PROFESSIONAL ENGINEERING ASSOCIATES, INC.  
CONSULTING ENGINEERS FOR WASHINGTON TOWNSHIP



Kevin B. Nosek, PE  
Department Manager

KBN/evs

Enclosures: Soil Sample and analysis

pc: Fred Blonde, w/enclosures  
R.J. Brainard, w/enclosures  
Steve Hohensee, w/enclosures  
Bob Seibert, w/enclosures

## McDowell & Associates

*Geotechnical, Environmental & Hydrogeological Services • Materials Testing & Inspection*

21355 Hatcher Avenue • Ferndale, MI 48220  
Phone: (248) 399-2066 • Fax: (248) 399-2157

August 1, 2003

Charter Township of Washington  
57900 Van Dyke Avenue  
Washington Township, MI 48094

Job No. 99-11846

Attention: Mr. Gary Kirsh, Supervisor

Subject: Soil Sampling & Analyses  
Soil Cap – Former Orchard  
Vicinity of Former 64911 W. 29 Mile Road  
Washington Township, Macomb County, MI

Dear Mr. Kirsh:

McDowell & Associates completed Soil Sampling & Analyses for the cap placed upon the former orchard area on the subject property. A Site Location Map, which shows the general location of the subject property, is attached.

On July 30, 2003, McDowell & Associates obtained nine (9) surface soil samples from the cap of the former orchard area on the subject property, designated Cap-1 through Cap-9. A Cap Sample Location Map accompanies this report.

Soil samples were placed in labeled, pre-cleaned glass jars and stored in an ice chest until delivery to a representative of Brighton Analytical, LLC of Brighton, Michigan for chemical testing. Sample chain-of-custody documentation accompanies this report.

Soil samples were subject to tests to determine the presence of arsenic (Method 6020).

Arsenic was not detected in any of the samples at concentrations which exceed the Facility Specific Background Level calculated for the site. Table 1, Summary of Arsenic Chemistry Results, shows chemical test results in comparison to Facility Specific Background and MDEQ Generic Residential Criteria.

Individual chemical test results are attached.

PEA JOB NUMBER

RECEIVED

SEP 19 2003

CENTRAL FILES

☐ CORRESP ☐ MEDIA  
☐ COMPS/LEGAL ☐ SPECS/REPTS  
☐ CONTRACTS ☐ REFERENCES  
☐ REGULATORY/COMPL

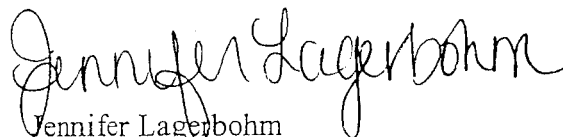
Mid-Michigan Office

3733 James Gange Road • Michigan, MI 48061  
Phone: 989-496-3610 • Fax: 989-496-3141

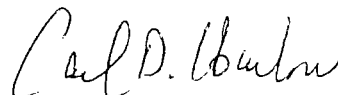
If you have any questions, or if we can be of further service, please do not hesitate to call.

Very truly yours,

McDOWELL & ASSOCIATES



Jennifer Lagerbohm  
Environmental Scientist



Carl D. Harlow, P.E.  
Special Projects Manager

JL/db/ga

Attachments: Table 1 – Summary of Arsenic Chemistry Results (Soil – Cap)  
Attachment I – Site Location Map  
Attachment II – Cap Sample Location Map  
Attachment III – Chemical Test Results

**Table 1**

**Summary of Arsenic Chemistry Results (Soil- cap)**

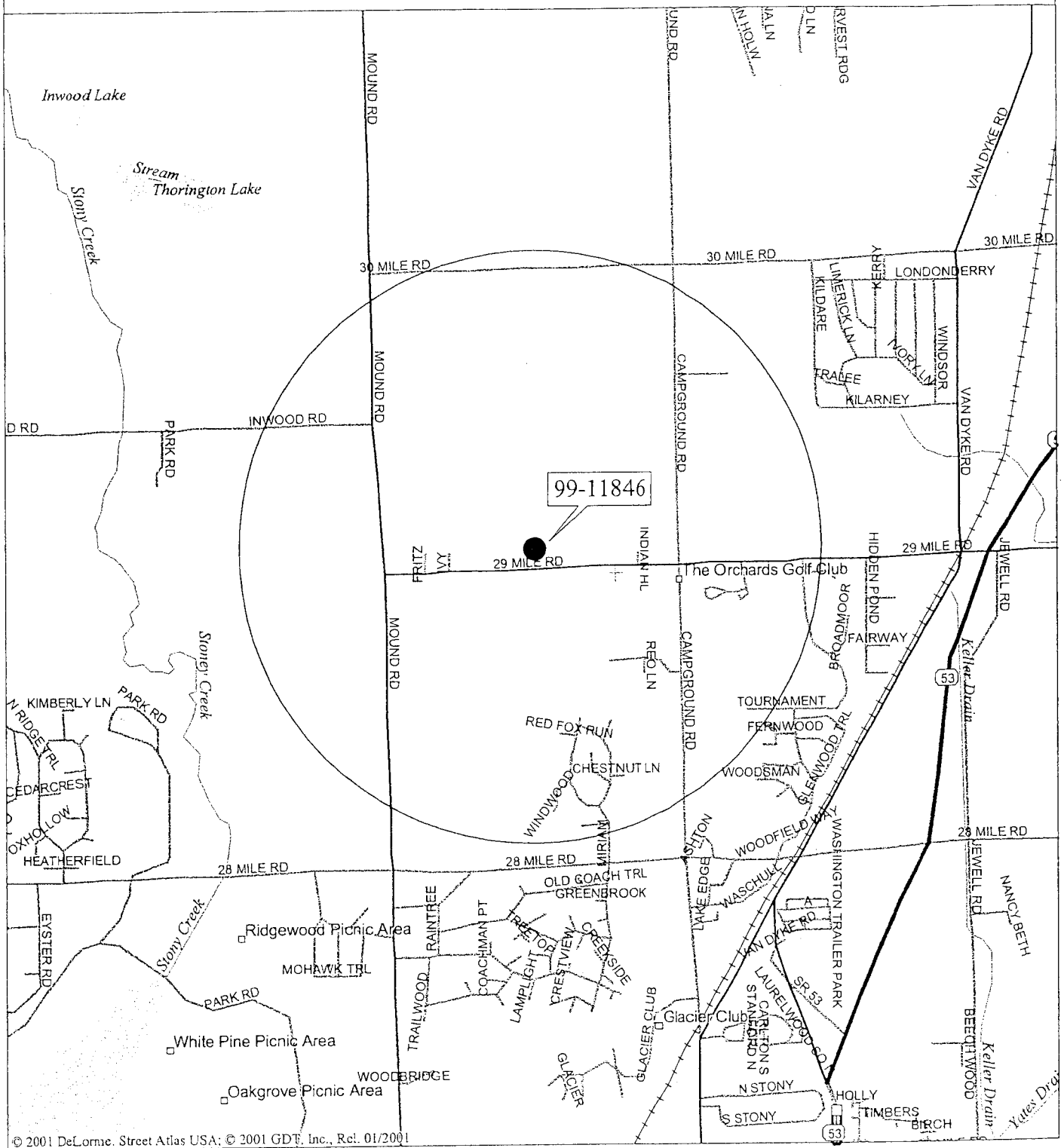
TABLE 1 - SUMMARY OF ARSENIC CHEMISTRY RESULTS (Soil- cap)

Sample	Date	Description	Matrix	Arsenic 7440382
Cap-1	7/30/2003	Cap- former orchard area	Soil	3.3
Cap-2	7/30/2003	Cap- former orchard area	Soil	4.5
Cap-3	7/30/2003	Cap- former orchard area	Soil	5.9
Cap-4	7/30/2003	Cap- former orchard area	Soil	10
Cap-5	7/30/2003	Cap- former orchard area	Soil	3.5
Cap-6	7/30/2003	Cap- former orchard area	Soil	4.0
Cap-7	7/30/2003	Cap- former orchard area	Soil	3.9
Cap-8	7/30/2003	Cap- former orchard area	Soil	2.7
Cap-9	7/30/2003	Cap- former orchard area	Soil	3.4
MDEQ Generic Statewide Default Background Levels				5.8
Facility-Specific Background Calculated for the Site				16
MDEQ Generic Residential Direct Contact Criteria				7.6
MDEQ Generic Residential Ambient Air Inhalation Criteria				720
MDEQ Generic Residential Groundwater Protection Criteria				23/70/2,000

1. All values expressed in mg/kg
2. MDEQ Residential Generic Statewide Default Background, Direct Contact, Ambient Air Inhalation, and Groundwater Protection Criterion from Part 201 Generic Cleanup Criteria and Screening Levels "Soil: Residential and Commercial I" dated 2003.
3. Most rigorous of Ambient Air Criteria presented. In Metals, most rigorous criteria is Particulate Soil Inhalation Criteria.
4. Groundwater Protection Criteria presented as DW, GSI, and GCC.
5. Chemical Abstract Service (CAS) Numbers are presented below chemicals as provided by the MDEQ.



# Site Location Map





Mag 14.00  
Tue Aug 05 07:29 2003

Scale 1:31,250 (at center)

2000 Feet

1000 Meters

 Local Road  
 Major Connector  
 State Route  
 Interstate

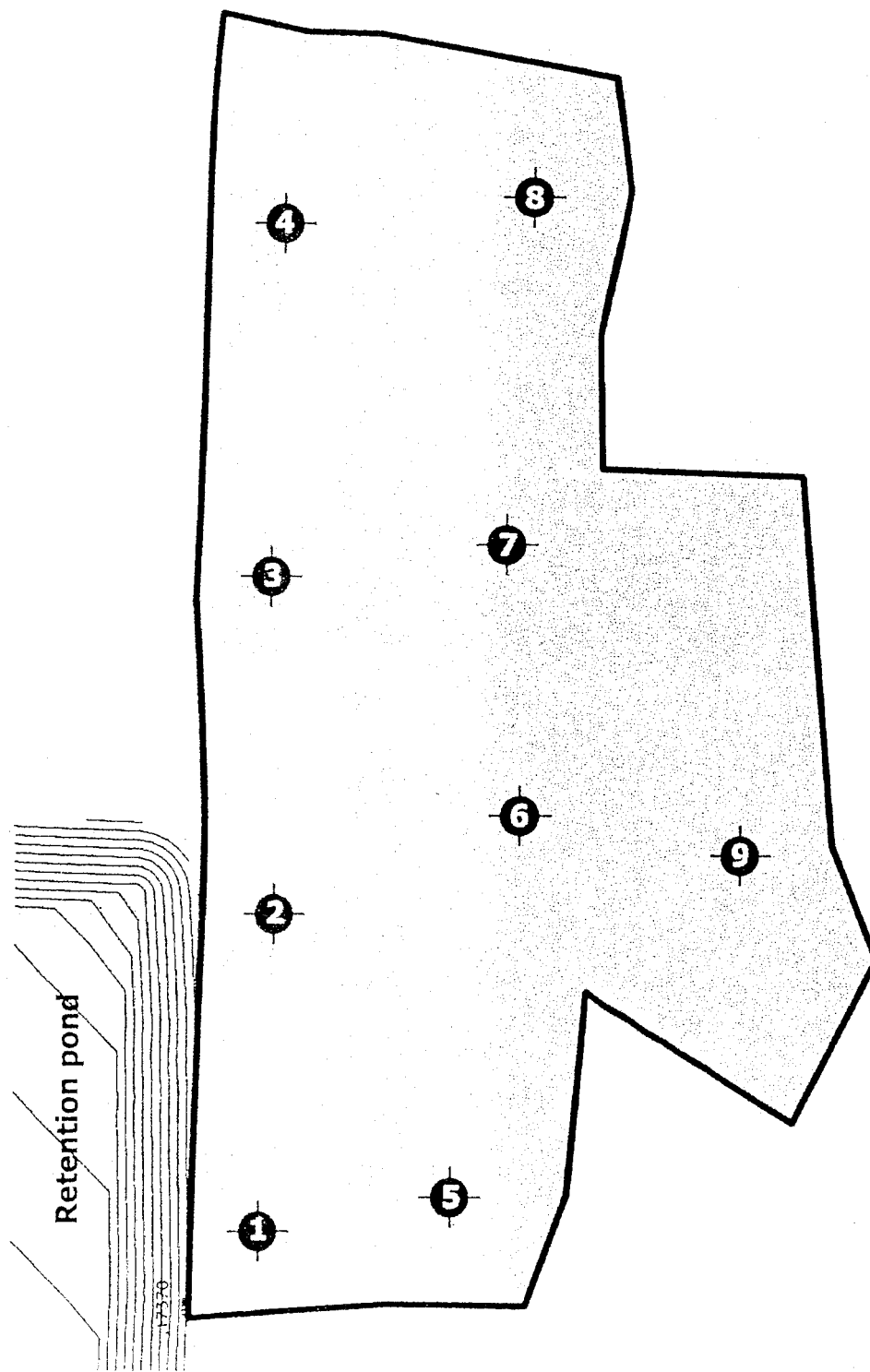
## **Attachment II**

### **Cap Sample Location Map**

Soil Sampling and Analyses  
Former Orchard  
6491 W. 29 Mile Rd. - Washington Twp.  
Job Number: 99-11846



## Cap Sample Location Map



Approximate Area with One-Foot Soil Cap (Former Orchard)

Approximate Surface Sample Location



## **Attachment III**

### **Chemical Test Results**



Brighton Analytical, L.L.C.

2105 Pless Drive

Brighton, Michigan 48116

TM Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003

Submit Date: 07/30/2003

Report Date: 08/01/2003

To: McDowell &amp; Associates

21355 Hatcher Ave.

Ferndale, MI 48220

BA Report Number: 67226

BA Sample ID: BD00781

Project Name: 99-11846

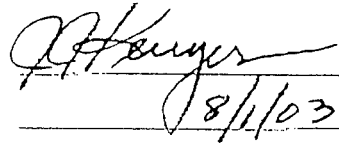
Project Number: 99-11846

Sample ID: cap-1

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	3.3	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	98.1	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by: 

Date: 8/1/03



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650

To: McDowell & Associates  
21355 Hatcher Ave.  
Ferndale, MI 48220

Sample Date: 07/30/2003  
Submit Date: 07/30/2003  
Report Date: 08/01/2003

BA Report Number: 67226  
BA Sample ID: BD00782

Project Name: 99-11846  
Project Number: 99-11846  
Sample ID: cap-2

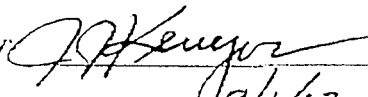
Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	4.5	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	97.5	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

  
8/1/03



Brighton Analytical, L.L.C.  
 2105 Pless Drive  
 Brighton, Michigan 48116  
 Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
 Submit Date: 07/30/2003  
 Report Date: 08/01/2003

To: McDowell & Associates  
 21355 Hatcher Ave.  
 Ferndale, MI 48220

BA Report Number: 67226  
 BA Sample ID: BD00783

Project Name: 99-11846  
 Project Number: 99-11846  
 Sample ID: cap-3

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	5.9	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	<b>Digested</b>			3050	PR	07/31/2003
%Solid	97.6	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

*J. H. Kuyon*  
 08/1/03



Brighton Analytical, L.L.C.  
 2105 Pless Drive  
 Brighton, Michigan 48116  
 Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
 Submit Date: 07/30/2003  
 Report Date: 08/01/2003

To: McDowell & Associates  
 21355 Hatcher Ave.  
 Ferndale, MI 48220

BA Report Number: 67226  
 BA Sample ID: BD00784

Project Name: 99-11846  
 Project Number: 99-11846  
 Sample ID: cap-4

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	10	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	96.3	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by: *J. J. Kuyper*  
 Date: 8/1/03





Brighton Analytical, L.L.C.  
 2105 Pless Drive  
 Brighton, Michigan 48116  
 Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
 Submit Date: 07/30/2003  
 Report Date: 08/01/2003

To: McDowell & Associates  
 21355 Hatcher Ave.  
 Ferndale, MI 48220

BA Report Number: 67226  
 BA Sample ID: BD00785

Project Name: 99-11846  
 Project Number: 99-11846  
 Sample ID: cap-5

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	3.5	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	98.0	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

*[Signature]*  
 08/1/03



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
Submit Date: 07/30/2003  
Report Date: 08/01/2003

To: McDowell & Associates  
21355 Hatcher Ave.  
Ferndale, MI 48220

BA Report Number: 67226  
BA Sample ID: BD00786

Project Name: 99-11846  
Project Number: 99-11846  
Sample ID: cap-6


Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	4.0	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	94.7	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

  
8/1/03



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
Submit Date: 07/30/2003  
Report Date: 08/01/2003

To: McDowell & Associates  
21355 Hatcher Ave.  
Ferndale, MI 48220

BA Report Number: 67226  
BA Sample ID: BD00787

Project Name: 99-11846  
Project Number: 99-11846  
Sample ID: cap-7

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
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**Total Metal Analysis**


Total Arsenic	3.9	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	98.4	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

  
8/1/03



Brighton Analytical, L.L.C.  
2105 Pless Drive  
Brighton, Michigan 48116  
Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003  
Submit Date: 07/30/2003  
Report Date: 08/01/2003

To: McDowell & Associates  
21355 Hatcher Ave.  
Ferndale, MI 48220

BA Report Number: 67226  
BA Sample ID: BD00788

Project Name: 99-11846  
Project Number: 99-11846  
Sample ID: cap-8

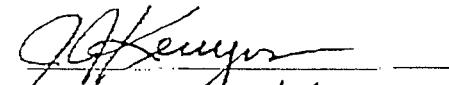
Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
<b>Total Metal Analysis</b>						
Total Arsenic	2.7	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	99.0	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

  
8/1/03



Brighton Analytical, L.L.C.

2105 Pless Drive

Brighton, Michigan 48116

Phone: (810) 229-7575 FAX: (810) 229-8650

Sample Date: 07/30/2003

Submit Date: 07/30/2003

Report Date: 08/01/2003

To: McDowell & Associates

21355 Hatcher Ave.

Ferndale, MI 48220

BA Report Number: 67226

BA Sample ID: BD00789

Project Name: 99-11846

Project Number: 99-11846

Sample ID: cap-9

Parameters	Results	Units	DL	Method Reference	Analyst	Analysis Date
------------	---------	-------	----	------------------	---------	---------------

**Total Metal Analysis**

Total Arsenic	3.4	mg/Kg	0.10	SW846 6020	GW	07/31/2003
Metal Soil (digestion)	Digested			3050	PR	07/31/2003
%Solid	97.1	%		ASTM D-2216	GW	07/31/2003

All soil results based on dry weight.

DL=Detection Limit as recommended by MDEQ

Released by:

Date:

*J. H. Kueyer*  
8/1/03



Brighton Analytical, L.L.C.<sup>TM</sup>

2105 Pless Drive  
Brighton, MI 48114

Phone: 810-229-7575  
Fax: 810-229-8650

COMPANY NAME:

PERDENT ASSOCIATES

PROJECT NAME:

99-11846

PROJECT NUMBER:

99-11846

P. O. NUMBER:

99-11846

REQUESTED TURNAROUND: (circle one)  
Rush: 1-3 business days (verify with lab & specify date needed)  
Expedited: 5 business days  
Standard: 10 business days

IF RUSH,  
approved by:

Sampling:

Time Date

Sample Description

Brighton ID #

VOA'S (PRES) Y N

HDPE UNPRESERVED

HDPE H<sub>2</sub>SO<sub>4</sub>

HDPE HNO<sub>3</sub>

HDPE NaOH

GLASS H<sub>2</sub>SO<sub>4</sub>

GLASS, NO PRESERVATIVE

MEOH Preserved  
(F) Field or (L) Lab Preserved

Container, Type & Quantity

Sample Matrix

FOR DISSOLVED METALS (L) LAB TO FILTER (F) FIELD FILTERED

Analysis Requested/Method

PAGE 1 OF 1

REPORT RESULTS TO:

PERDENT ASSOCIATES

Attn: Jennifer Longden

PHONE:

FAX: 810-229-8650

Sample received within holding time? yes ☐ no ☐

For TCLP ONLY - Federal Limits ☐ Other ☐

Samples intact: yes ☐ no ☐ (if no, see below)

Note samples if not intact:

Headspace/bubbles in VOA'S? yes ☐ no ☐ n/a ☐

Sample containers and COC match? yes ☐ no ☐

Comments:

Temperature of Samples °C: \_\_\_\_\_

Please fill out the Chain of Custody completely and review. Incorrect or incomplete information will result in a "hold" on all analyses.

Trans. #

RELINQUISHED BY:

RECEIVED BY:

DATE:

TIME:

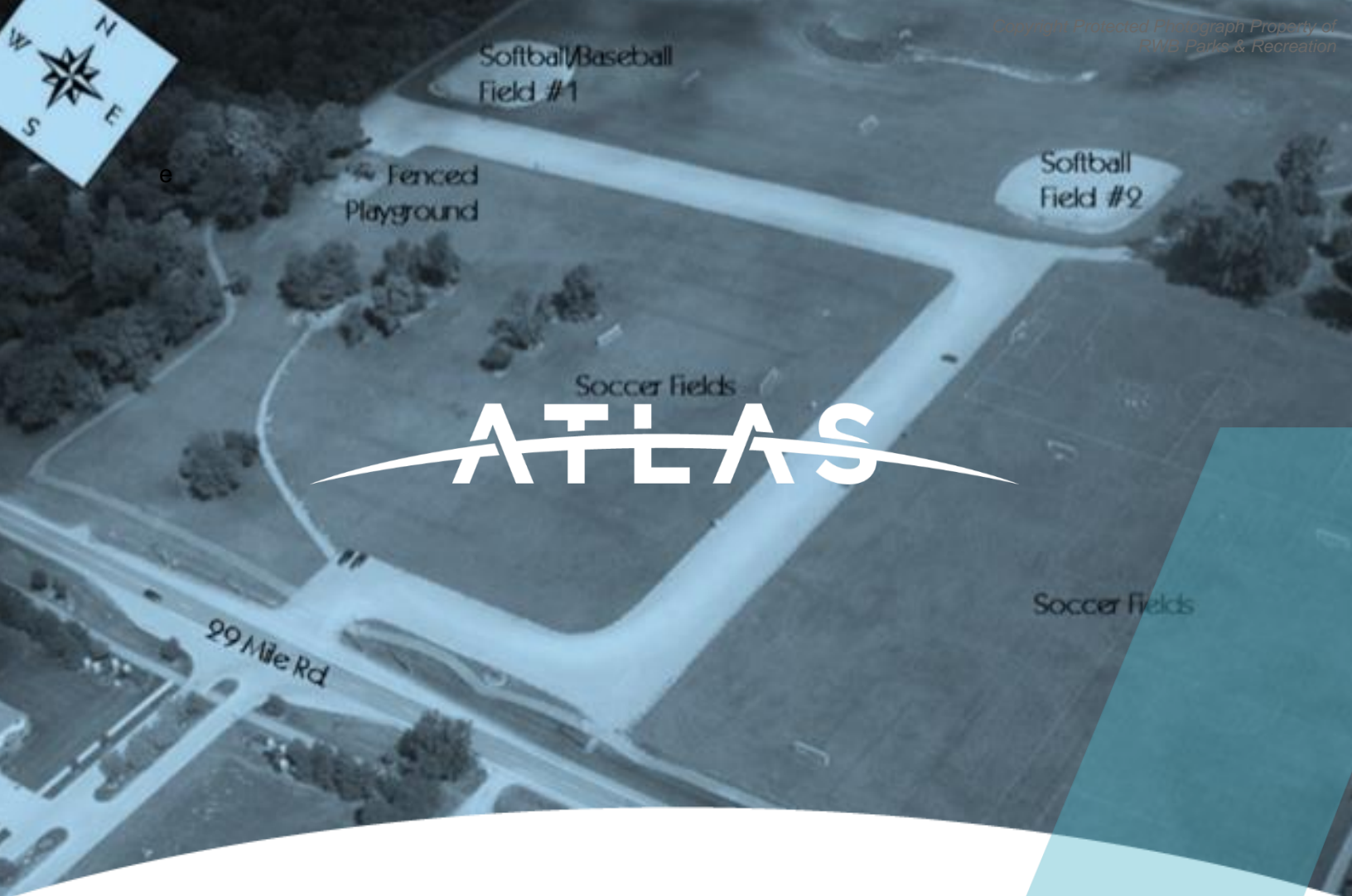
Trans. #

RELINQUISHED BY:

RECEIVED BY:

DATE:

TIME:



# RISK MITIGATION PLAN

## GILCHER-CRISSMAN PARK CONSTRUCTION

240VAP2502

6859 29 Mile Road

Washington, MI 48095

### PREPARED FOR:

WBR Parks and Recreation Commission  
and

Mr. Brent Kraft, PE

Giffels Webster

6303 26 Mile Road, Suite 100

Washington, MI 48094

### PREPARED BY:

Atlas Technical Consultants LLC  
46555 Humboldt Drive, Suite 100  
Novi, MI 48377

February 14, 2025



46555 Humboldt Drive, Suite 100  
Novi, MI 48377  
(248) 669-5140 | [oneatlas.com](http://oneatlas.com)

February 14, 2025

Atlas No. 240VAP2502

MR. BRENT KRAFT, PE  
**GIFFELS WEBSTER**  
6303 26 MILE ROAD, SUITE 100  
WASHINGTON, MI, 48094

**Subject:**      **Risk Mitigation Plan**  
                  **6859 29 Mile Road**  
                  **Washington, MI 48095**

Reference:      Risk Mitigation Plan for Construction Activities at Gilcher-Crissman Park

Dear Mr. Kraft:

Atlas is pleased to present this Risk Mitigation Plan (RMP) outlining the procedures to be followed to ensure the health and safety of construction workers during construction activities at Gilcher-Crissman Park in Washington, Michigan.

If you have any questions, please do not hesitate to contact us.

Respectfully submitted,  
**Atlas Technical Consultants LLC**

A handwritten signature in blue ink, appearing to read "Nate Wanner".

Nate Wanner, CPG  
Senior Project Manager  
Direct: 614-917-8406  
Email: [nate.wanner@oneatlas.com](mailto:nate.wanner@oneatlas.com)

A handwritten signature in black ink, appearing to read "Joshua Schuyler".

Joshua Schuyler  
Regional Operations, Area Manager, MI  
Direct: 248-863-2666  
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## APPENDICES

Appendix I     Risk Mitigation Plan Acknowledgement Form

## EXECUTIVE SUMMARY

Based upon the historical documents provided to Atlas, soils at the Property were contaminated with arsenic during historical operation as an orchard. Detected concentrations ranged from 1.8 mg/kg to 62 mg/kg and exceeded Residential Direct Contact criterion (7.6 mg/kg), Site-Specific Background Levels (16 mg/kg), and Non-Residential Direct Contact criterion (37 mg/kg). The orchard area was subsequently capped with approximately one (1) foot of topsoil. This clean soil cap serves as an exposure barrier to prevent direct contact with contaminated soils. Concentrations of arsenic in cap materials ranged from 2.7 mg/kg to 10 mg/kg (below Site-Specific Background Levels).

Because contaminated soils remain in place, care must be taken to mitigate or eliminate human exposure to the contaminants during construction activities which may expose the contaminated soil. This includes:

1. Informing construction workers of health and safety measures to be followed.
2. Restricting public access to the construction site with fencing.
3. Employing dust control measures during construction, as necessary.
4. Appropriate handling of all excavated and disturbed soil.
5. Appropriate characterization and disposal of any excavated soil that will be removed from the Property. Any soil not disposed of off-site should be placed beneath the soil cap.
6. Restoring a clean soil cap above contaminated soils (preferably with a demarcation barrier).

## 1. PURPOSE OF THE RISK MITIGATION PLAN

The purpose of this risk mitigation plan (RMP) is to provide risk mitigation measures that mitigate or eliminate human exposure to contamination as a result of construction activities. Construction activities include any excavation activities below the previously constructed clean soil cap (e.g., one foot below ground surface). Concerns for potential exposure to contaminated soil include both during the construction activities and after completion of the construction activities. Therefore, the RMP has three main purposes:

- Risk mitigation measures to protect construction workers from contamination that exceed applicable standards for construction activities.
- Risk mitigation measures to protect non-construction workers from exposure to contamination during the construction activities, which can be accomplished through appropriate site control measures.

- Risk mitigation measures to protect non-construction workers from exposure to contamination after construction completion, which can be accomplished through proper soil management of the contaminated soil and restoration of the clean soils within the point of compliance.

Risk mitigation measures are those health and safety precautions and other such remedial activities that provide protection to either persons working in construction activities or other persons who may be impacted by the construction activities from exposures to chemicals of concern (COCs) in environmental media at a property.

Adherence to the measures outlined in this RMP will enhance the protection of construction and/or excavation workers or other persons from exposure to COCs located in soils below one foot of surface grade at the property. This RMP applies to the COCs, environmental media, and exposure pathway summarized in the table below.

<b>Chemical of Concern</b>	<b>Media</b>	<b>Pathway</b>
Arsenic	Soil	Direct contact
Lead	Soil	Direct contact

Implementation of this RMP allows the property to maintain compliance with Michigan Due Care (DC) obligations under Section 20107a and Section 21304c during construction activities. It is not intended to fulfill requirements of other laws that may apply to construction or excavation activities at the property, such as those administered by the Occupational Safety and Health Administration (OSHA).

## 2. IMPLEMENTING THE RISK MITIGATION PLAN

The RMP is to be implemented across the entire property anytime excavation or construction activities occur at a depth below one foot of surface grade. The responsibility for implementing this RMP belongs to the owner(s) of the property, including successors.

## 3. POTENTIAL HEALTH RISKS

Baseline Environmental Assessment (BEA) for the property identified arsenic contamination associated with historical orchard operations. Detected concentrations ranged from 1.8 mg/kg to 62 mg/kg and exceeded Residential Direct Contact criterion (7.6 mg/kg), Site-Specific Background Levels (16 mg/kg), and Non-Residential Direct Contact criterion (37 mg/kg). The orchard area was subsequently capped with approximately one (1) foot of topsoil to prevent direct contact with contaminated soils. Concentrations of arsenic in cap materials ranged from 2.7 mg/kg to 10 mg/kg (below Site-Specific Background Levels).

A lead arsenate-based pesticide was used extensively to control agricultural pests in fruit orchards until the late 1950s and is presumed to be a source of arsenic found in property soils. Lead is not specifically identified or discussed in BEA documents, and levels of lead found in former orchard

soils are usually below levels of health concern for residential areas.<sup>1</sup> However, for the purposes of this RMP, it is presumed that lead is also present in the arsenic-contaminated soils.

### 3.1 Arsenic

According to the ATSDR,<sup>2</sup> breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer.

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

### 3.2 Lead

According to the ATSDR,<sup>3</sup> the effects of lead are the same whether it enters the body by breathing it in or eating it. Lead can affect almost every organ and system in your body. The nervous system is the main target for lead poisoning in children and adults. Long-term exposure can result in decreased learning, memory, and attention, and weakness in fingers, wrists, or ankles. Lead exposure can cause anemia (low iron in the blood) and damage to the kidneys. It can also cause increases in blood pressure, particularly in middle-aged and older individuals. Exposure to high lead levels can severely damage the brain and kidneys and can cause death. In pregnant women, exposure to high levels of lead may cause a miscarriage. In men, it can cause damage to reproductive organs.

Children are more vulnerable to lead poisoning than adults because their nervous system is still developing. Children can be exposed to lead in their environment and before birth from lead in

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<sup>1</sup> <https://www.dhs.wisconsin.gov/publications/p4/p45007.pdf>

<sup>2</sup> <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=19&toxid=3>

<sup>3</sup> <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=93&toxid=22>

their mother's body. At lower levels of exposure, lead can decrease mental development, especially learning, intelligence, and behavior. Physical growth may also be decreased. A child who swallows large amounts of lead may develop anemia, severe stomachache, muscle weakness, and brain damage. Exposure to lead during pregnancy can also result in premature births. Some effects of lead poisoning in a child may continue into adulthood.

Lead is a probable human carcinogen.

#### **4. PRECAUTIONS AGAINST EXPOSURES**

Exposure to arsenic and lead on the property could occur when construction workers come in contact with contaminated soils below one foot of surface grade. Contact can include dermal contact with exposed skin, such as bare hands and forearms, accidental ingestion when soil gets on food, such as transfer from dirty hands to food, or breathing in particles of lead contaminated soil as dust. Construction workers should always attempt to limit their exposure to soils below one foot of surface grade or lessen the time after contact that the impacted soil remains on the skin. Areas under construction shall be controlled adequately so that other receptors (i.e., non-construction workers or general public) are not adversely impacted as a result of the construction activities. Soil meeting applicable standards shall be restored beneath the one-foot point of compliance after completion of the construction activities or appropriately disposed. Specific precautions to be taken at all times when the upper one foot of soil is breached are as follows:

1. Wear clothing that limits the skin area available for contact with the soil. Examples of such clothing include gloves, hard hats, long sleeve shirts, and long pants.
2. Wash hands frequently and always before eating, smoking, chewing gum or tobacco, or other activities that involve contact between the hands and items to be placed in the mouth. This will prevent the spread of any soil on the hands to the items being placed in the mouth.
3. Do not apply ointments, cream, make-up, or other substances before washing both the area to which the substance is to be applied and, if the substance is to be applied by hand, the hands. The application of such substances can provide a mechanism by which soil can be trapped next to the skin.
4. Cover cuts, scrapes and other open skin areas. Injured skin allows compounds in the soil to be more readily absorbed into the body than intact skin.
5. Wash hands and other exposed areas, especially those areas with visible dirt, before leaving the work site for extended time periods. This limits the amount of time that the soil is potentially in contact with the skin, thereby reducing the amount of chemicals that can be absorbed through the skin.
6. Change work clothes shortly after leaving the property, especially those work clothes having either visible dirt or made damp through sweat or other liquids. Wash such clothes prior to wearing them again. Gloves and other such items that come into direct contact with the soil should also be washed, if possible.

7. Wash hair and other less accessible portions of the body shortly after leaving the work site for the day. Dirt and dust that contain substances such as lead can settle in the hair and spread by contact between the hands and the hair. Dirt and dust can also infiltrate under and through clothing, especially clothing becoming wet or sweaty.
8. Generally avoid direct contact between the skin and the contaminated soils at the property.
9. Minimize the suspension of dust to the degree possible and specify measures to be taken for minimizing dust. Dust masks should be worn when warranted.
10. Use adequate and appropriate site control to limit access to the construction area until construction completion.
11. Restore clean soil cover to the appropriate point of compliance depth (e.g., one foot below surface grade) to ensure continued compliance with applicable standards after construction completion. When possible, place a demarcation barrier (e.g., orange geotextile fabric or snow fence) between contaminated soils and clean soil cover.
12. Tools and equipment that come into contact with contaminated soil should be appropriately disposed of or cleaned.

## **5. ACTIONS TO BE TAKEN IF SIGNIFICANT EXPOSURES OCCUR**

Whenever significant exposures to contaminated materials are suspected to have occurred at the property, the following steps must be taken:

1. Immediately remove and decontaminate all personnel.
2. Provide medical surveillance monitoring as needed for personnel.
3. Restrict access to the contaminated area.
4. Perform sampling and analysis as required to determine levels of personal protective equipment, decontamination of personnel and equipment, training needs, medical surveillance, and waste management requirements, prior to resuming work at the site.

## **6. HANDLING CONTAMINATED ENVIRONMENTAL MEDIA**

During future excavation activities the upper one foot of soil may be temporarily breached, exposing construction or excavation workers or other persons to the potentially contaminated underlying soils. Therefore, proper precautions are necessary to limit exposures both during and after completion of construction activities.

Wherever excavation occurs on the property, soils may be reused as fill, provided the potentially contaminated soils below one foot of grade are not co-mingled with soils above that depth, or used as fill within the upper one foot of grade.

Soils within the upper one foot of surface grade must be replaced with the materials excavated from that depth interval, or with other clean fill as needed, to restore the clean soil that was within

the upper one foot of grade prior to the excavation. This requires that soils excavated from the upper one foot of surface grade be isolated and temporarily stockpiled separately from other soils and returned to the upper one foot of the excavation during backfilling operations. Alternatively, if something occurs such that the upper one foot of soil cannot be replaced on the property, other clean soils, such as those from an off-property source, may be used to re-grade the top one foot on the property as long as the soil has been characterized and demonstrated to meet applicable standards. A clean zone of soil from zero to one foot below surface grade must be replaced at the conclusion of the excavation work.

When handling soils, appropriate precautions should be taken to isolate clean soils from contaminated soils. Such precautions may include staging soils on plastic sheeting, covering stockpiles to prevent erosion and dispersion, and/or placing excavated soil directly into roll-off dumpsters.

The procedures in this RMP presume that excavation activities will not extend to groundwater. If water or saturated soils are encountered, additional precautions may be necessary. This may include containerizing and characterizing water, lining of roll-off dumpsters, and appropriate safety measures.

Contaminated soils below one foot of surface grade may be excavated and removed from the property provided that they are properly characterized and disposed of in accordance with applicable laws and regulations.

## **7. NOTICE TO CONTRACTORS AND WORKERS**

Whenever construction or excavation workers are reasonably expected to be exposed to soils below one foot of grade, the owner of the property is responsible for communicating all the information provided in this RMP to the workers. The owner is to communicate the identity of the chemical(s) of concern present on the property, their location on the property and in which media, the potential health effects associated with exposure to said chemicals, the precautions to be taken to avoid exposure, how to handle contaminated media on the property, and actions to be taken should significant exposure occur.

A copy of this RMP will be maintained at the property during construction/excavation activities. The property owner will ensure that the plan is made available to contractors and construction/excavation workers and will ensure that the plan is implemented during excavation below one foot of surface grade.

Appendix I contains an example notification log that can be used with contractors and workers.

## **8. RECORD KEEPING AND REPORTING**

Reporting to EGLE is not presently required. However, Michigan EGLE may request copies of record keeping and documentation at any time. Documentation of construction/excavation activities should include the following:

1. A description of the activities performed and their purpose.

2. The location of soil disturbance(s). Include figures, maps, and photographs as appropriate.
3. The depth of the disturbance. If a disturbance only reached a depth of 0.5 feet and did not encounter contaminated soils, there is still benefit to maintaining such documentation.
4. A list of individuals who could have come into contact with contaminated soils and documentation that they were notified of this RMP (see Section 7 and Appendix I).
5. A description of how soils were handled, managed, and staged during construction.
6. If any soil was disposed off-site, documentation of its characterization and final disposition. Include waste profiles, sampling results, and disposal manifests as appropriate.
7. Documentation of how the clean soil cap was restored, including the thickness of clean cap materials and whether a demarcation barrier was placed between contaminated soils and the clean soil cap.

## **9. MODIFICATION AND TERMINATION CRITERIA**

The following circumstances may warrant modification or termination of this RMP:

1. Other methodologies to mitigate and control risk are identified.
2. Remedial activities are performed that remove or reduce contamination at the property.
3. Additional investigation determines that contamination at the property does not pose a substantial risk.

Any modification or termination should be performed by, or in consultation with, an appropriately qualified environmental professional.



## **APPENDIX I**

### **RISK MITIGATION PLAN ACKNOWLEDGEMENT**

## GILCHER-CRISSMAN PARK CONSTRUCTION

6859 29 Mile Road  
Washington, MI 48095

I am aware of arsenic and lead contamination in soil at the Gilcher-Crissman Park, as documented in the Risk Mitigation Plan (RMP). I understand that contaminated soil may be located in any area of the park at depths as shallow as one foot. I understand the potential health risks associated with this contamination, as presented in Section 3 of the RMP. I agree to:

1. Follow the precautions against exposure presented in Section 4 of the RMP.
2. Notify appropriate individuals in the event of a significant exposure (Section 5).
3. Handle excavated soils in accordance with the procedures in Section 6 of the RMP.

[illegible]

**PERMITS**

Contractor shall contact the below agencies as needed regarding instructions for obtaining permits.

**1.01 Hydrant Use**

- A. Any permits from individual communities that require one for work and/or use of hydrant water.

**1.02 Building Permit**

- A. Washington Township Building Department
- B. Contractor to apply for building permit of the pavilion.

**1.03 Washington Township NPDES MS4**

- A. Contractor to perform municipal operations and maintenance activities in compliance with all pollution prevention and good housekeeping Best Management Practices as appropriate.
- B. See provided "Storm Water Pollution Prevention" brochure.



#20408.01

Washington, Bruce and Romeo Parks and Recreation Commission  
Gilcher-Crissman Park Pavilion

**BID FORM – UNIT PRICE (SINGLE PRIME CONTRACT)**

Gilcher-Crissman Park Pavilion

#20408.01

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**ARTICLE 1 – BID RECIPIENT**

## 1.01 This Bid is submitted to:

Washington, Bruce and Romeo Parks and Recreation Commission  
Received at Bruce Township Offices  
223 East Gates Street Romeo, MI 48065

## 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 120 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, if any, 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. 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.

#### **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 any thing 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**

Bidder will complete Work in accordance with the Contract Documents for the following prices:

No.	Description	Est. Quantity	Unit	Bid Unit Price	Bid Price
<b>I. BASE BID</b>					
<b>A. SETUP AND PREPARATION</b>					
1	Mobilization (5% Max)	1	LS	\$	\$
2	Cash Allowance (Permits)	5,000	DLR	\$1.00	\$5,000.00
SUB-TOTAL SETUP AND PREPARATION				\$	
<b>B. DEMOLITION AND SOIL EROSION</b>					
3	Non Haz Contaminated Material Handling and Disposal, LM	185	CYD	\$	\$
4	Clean Fill	70	CYD	\$	\$
5	Topsoil Surface, Salv, 6 Inch	657	SYD	\$	\$
6	Erosion Control, Silt Fence	716	LF	\$	\$
7	Subgrade Undercutting, Type II, Modified	125	CYD	\$	\$
SUB-TOTAL DEMOLITION AND SOIL EROSION				\$	
<b>C. GENERAL PARK IMPROVEMENTS</b>					
8	Sidewalk, Conc, 4 Inch	5,335	SF	\$	\$
9	Aggregate Base, 4 Inch, CL II Sand	593	SYD	\$	\$
10	5040 SF Open Air Pavilion	1	LS	\$	\$
11	Electrical Service for Pavilion	1	LS	\$	\$
SUB-TOTAL GENERAL PARK IMPROVEMENTS				\$	
<b>D. SUBSTANTIAL AND FINAL COMPLETION</b>					
12	Restoration	1	LS	\$	\$
SUB-TOTAL SUBSTANTIAL AND FINAL COMPLETION				\$	
<b>II. SUMMARY OF BID</b>					

<b>BASE BID TOTAL = A + B + C + D</b>	<b>\$</b>
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AMOUNT    WRITTEN

Contractor to provide the planned building supplier for pavilions:

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Bidder acknowledges that (1) each Bid 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 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 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. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
  - C. Contractor's License No.: \_\_\_\_\_  
[or] Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain said license within the time for acceptance of Bids;
  - D. Required Bidder Qualification Statement (EJCDC® C-451) with supporting data; and

**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 – BID 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.)*

Attest:

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

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

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

Address for giving notices:

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

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

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

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

**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*):

Washington, Bruce and Romeo Parks and Recreation Commission  
361 Morton St. Romeo MI 48065

BID

Bid Due Date: Monday, May 5, 2025

Description (*Project Name— Include Location*): Gilcher-Crissman Park Pavilion in Washington Township

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

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

\_\_\_\_\_  
Title Title

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

**QUALIFICATIONS STATEMENT****THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT  
PERMITTED BY LAWS AND REGULATIONS****1. SUBMITTED BY:**

Official Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**2. SUBMITTED TO:** \_\_\_\_\_**3. SUBMITTED FOR:** \_\_\_\_\_

Owner: \_\_\_\_\_

Project Name: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**TYPE OF WORK:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**4. CONTRACTOR'S CONTACT INFORMATION**

Contact Person: \_\_\_\_\_

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

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

Email: \_\_\_\_\_

**5. AFFILIATED COMPANIES:**

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

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**6. TYPE OF ORGANIZATION:**☐ SOLE PROPRIETORSHIP

Name of Owner: \_\_\_\_\_

Doing Business As: \_\_\_\_\_

Date of Organization: \_\_\_\_\_

☐ PARTNERSHIP

Date of Organization: \_\_\_\_\_

Type of Partnership: \_\_\_\_\_

Name of General Partner(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_☐ CORPORATION

State of Organization: \_\_\_\_\_

Date of Organization: \_\_\_\_\_

Executive Officers:

- President: \_\_\_\_\_

- Vice President(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- Treasurer: \_\_\_\_\_

- Secretary: \_\_\_\_\_

☐ LIMITED LIABILITY COMPANY

State of Organization:

Date of Organization:

Members:

☐ JOINT VENTURE

Sate of Organization:

Date of Organization:

Form of Organization:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

**7. LICENSING**

Jurisdiction: \_\_\_\_\_

Type of License: \_\_\_\_\_

License Number: \_\_\_\_\_

Jurisdiction: \_\_\_\_\_

Type of License: \_\_\_\_\_

License Number: \_\_\_\_\_

**8. CERTIFICATIONS**

CERTIFIED BY:

Disadvantage Business Enterprise: \_\_\_\_\_

Minority Business Enterprise: \_\_\_\_\_

Woman Owned Enterprise: \_\_\_\_\_

Small Business Enterprise: \_\_\_\_\_

Other ( \_\_\_\_\_ ): \_\_\_\_\_

**9. BONDING INFORMATION**

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

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

Bonding Agent: \_\_\_\_\_

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

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

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

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

Available Bonding Capacity as of date of this submittal: \_\_\_\_\_



**10. FINANCIAL INFORMATION**

Financial Institution: \_\_\_\_\_

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

Account Manager: \_\_\_\_\_

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

**11. CONSTRUCTION EXPERIENCE:**

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

**12. SAFETY PROGRAM:**

Name of Contractor's Safety Officer: \_\_\_\_\_

**13. EQUIPMENT:**

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on Owner's Project.

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATED: \_\_\_\_\_

NOTARY ATTEST:

SUBSCRIBED AND SWORN TO BEFORE ME

THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

NOTARY PUBLIC - STATE OF \_\_\_\_\_

MY COMMISSION EXPIRES: \_\_\_\_\_

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience).
2. Schedule B (Previous Experience).
3. Schedule C (Major Equipment).
4. Evidence of authority for individuals listed in Section 7 to bind organization to an agreement.
5. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
6. Additional items as pertinent.

## SCHEDULE A

## CURRENT EXPERIENCE

Project Name	Owner's Contact Person Name: Address: Telephone:	Design Engineer Name: Address: Telephone:	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				

## SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person Name: Address: Telephone:	Design Engineer Name: Address: Telephone:	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				



## SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person Name: Address: Telephone:	Design Engineer Name: Address: Telephone:	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				
	Name: Address: Telephone:	Name: Address: Telephone:				

[illegible]



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

THIS AGREEMENT is by and between Washington, Bruce and Romeo Parks and Recreation Commission ("Owner") and \_\_\_\_\_ ("Contractor").

Owner and Contractor hereby agree as follows:

**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:
- 1.02 *The Project consists of constructing a 5040 square foot open air pavilion at Gilcher Crissman Park with associated concrete pavement, footings, and electrical.*

**ARTICLE 2 – THE PROJECT**

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: *Gilcher-Crissman Park Pavilion*

**ARTICLE 3 – ENGINEER**

- 3.01 The Project has been designed by Giffels Webster.
- 3.02 The Owner has retained Giffels Webster ("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 Monday, December 15, 2025, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before Thursday, April 30, 2026.
- 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):

- B. Substantial Completion: Contractor shall pay Owner
- C. \$800.00
- D. 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.

## 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 Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

No.	Description	Est. Quantity	Unit	Contract Unit Price	Contract Price
<b>I. BASE BID</b>					
<b>A. SETUP AND PREPARATION</b>					
1	Mobilization (5% Max)	1	LS	\$	\$
2	Cash Allowance (Permits)	5,000	DLR	\$1.00	\$5,000.00
SUB-TOTAL SETUP AND PREPARATION				\$	
<b>B. DEMOLITION AND SOIL EROSION</b>					
3	Non Haz Contaminated Material Handling and Disposal, LM	185	CYD	\$	\$
4	Clean Fill	70	CYD	\$	\$
5	Topsoil Surface, Salv, 6 Inch	657	SYD	\$	\$
6	Erosion Control, Silt Fence	716	LF	\$	\$
7	Subgrade Undercutting, Type II, Modified	125	CYD	\$	\$
SUB-TOTAL DEMOLITION AND SOIL EROSION				\$	
<b>C. GENERAL PARK IMPROVEMENTS</b>					
8	Sidewalk, Conc, 4 Inch	5,335	SF	\$	\$
9	Aggregate Base, 4 Inch, CL II Sand	593	SYD	\$	\$
10	5040 SF Open Air Pavilion	1	LS	\$	\$

11	Electrical Service for Pavilion	1	LS	\$	\$
SUB-TOTAL GENERAL PARK IMPROVEMENTS				\$	
D. SUBSTANTIAL AND FINAL COMPLETION					
12	Restoration	1	LS	\$	\$
SUB-TOTAL SUBSTANTIAL AND FINAL COMPLETION				\$	
<b>II. SUMMARY OF BID</b>					
<b>BASE BID TOTAL = A + B + C + D</b>				\$	

---

AMOUNT    WRITTEN

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. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

### 6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the fifteenth day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. 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 Engineer shall determine, or Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
    - a. 90% 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

- b. 0% of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95% of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100% of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

#### 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 NOT USED

### 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 at or adjacent to the Site, if any, and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, if any, 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, if any, 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 (Section 00 52 13, pages 1 to 9, inclusive).
  - 2. Performance bond (Section 00 61 13.13, pages 1 to 3, inclusive).
  - 3. Payment bond (Section 00 61 13.16, pages 1 to 3, inclusive).
  - 4. Maintenance bond (Section 00 61 19, pages 1 to 2, inclusive).
  - 5. General Conditions (Section 00 72 00, pages 1 to 65, inclusive).
  - 6. Supplementary Conditions (Section 00 73 00, pages 1 to 12, inclusive).
  - 7. Specifications Group as listed in Section 00 01 10 Table of Contents of the Project Manual (Divisions 01-49).
  - 8. Drawings (not necessarily attached but incorporated by reference) consisting of 16 sheets with each sheet bearing the following general title: Gilcher-Crissman Park Pavilion.
  - 9. Addendum/Addenda (Section 00 91 13, numbers 1 to X, inclusive).
  - 10. Exhibits to this Agreement (enumerated as follows):
    - a. Documentation submitted by Contractor prior to Notice of Award
      - 1) Certificate of Insurance Form (Section 00 62 16)
  - 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not necessarily attached hereto:
    - a. Notice to Proceed (Section 00 55 00)
    - b. Applications for Payment (Section 00 62 76)
    - c. Requests for Interpretation (Section 00 63 13)
    - d. Field Orders (Section 00 63 36)

- e. Work Change Directives (Section 00 63 49)
  - f. Change Orders (Section 00 63 63)
  - g. Certificate of Completion (Section 00 65 19)
- 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 any thing 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:

Washington, Bruce and Romeo Parks and  
Recreation Commission

CONTRACTOR:

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

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

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

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

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

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

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

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

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

Address for giving notices:

Washington, Bruce and Romeo Parks and

Recreation Commission

361 Morton St. Romeo MI 48065

Address for giving notices:

License No.: \_\_\_\_\_  
*(where applicable)*

*(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.)*

**NOTE TO USER:** Use in those states or other  
jurisdictions where applicable or required.

**PERFORMANCE BOND**

CONTRACTOR *(name and address):*

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

OWNER *(name and address):*

Washington, Bruce and Romeo Parks and Recreation Commission  
223 E Gates Street, Romeo, MI 48065

**CONSTRUCTION CONTRACT**

Effective Date of the Agreement:

Amount:

Description *(name and location):* Gilcher-Crissman Park Pavilion in Washington Township

**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):*Washington, Bruce and Romeo Parks and Recreation Commission  
223 E Gates Street, Romeo, MI 48065

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):* Gilcher-Crissman Park Pavilion in Washington Township

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;
  - 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.
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.
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 BOND

CONTRACTOR *(name and address):*

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

OWNER *(name and address):*

Washington, Bruce and Romeo Parks and Recreation Commission  
223 E Gates Street, Romeo, MI 48065

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location):* Gilcher-Crissman Park Pavilion in Washington Township

BOND

Bond Number:

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

Amount:

Modifications to this Bond Form: None

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

CONTRACTOR AS PRINCIPAL

SURETY

\_\_\_\_\_  
*(seal)*

Contractor's Name and Corporate Seal

\_\_\_\_\_  
*(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.**

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): Giffels Webster

**APPLICATION FOR PAYMENT FORM**

I hereby declare that the Contractor's Request for Payment furnished by the Contractor and provided hereto with this APPLICATION FOR PAYMENT FORM, accurately lists the quantities performed for the application period.

Furthermore, I declare that I have not, during the period \_\_\_\_\_  
to \_\_\_\_\_, performed any work, furnished any material,  
sustained any loss, damage, or delay for any reason, including soil conditions encountered or created, or  
otherwise done anything for which I shall ask, demand, sue for, or claim compensation from  
Washington, Bruce and Romeo Parks and Recreation Commission (the Owner), or his agents, in addition  
to the regular items set forth in the contract numbered 20408.01 and dated  
\_\_\_\_\_ for \_\_\_\_\_ executed between myself and the  
Owner, and in the Change Orders for work issued by the Owner in writing as provided thereunder,  
except as I hereby make claim for additional compensation and/or extension of time, as set forth on the  
itemized statement attached hereto.

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

\_\_\_\_\_  
(CONTRACTOR)

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

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



**REQUEST FOR INTERPRETATION**

(Prime Contractor Only)

From: \_\_\_\_\_

RFI Number: \_\_\_\_\_

Project No.: 20408.01Project: Gilcher-Crissman Park Pavilion

Submitted to: \_\_\_\_\_

Giffels Webster

Specification

Section: \_\_\_\_\_ Paragraph: \_\_\_\_\_

Drawing

Reference: \_\_\_\_\_ Detail: \_\_\_\_\_

**Request:**☐ Attachments

Signed by: \_\_\_\_\_

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

**Response:**

Received (Day Stamp)

☐ Attachments

Signed by: \_\_\_\_\_

Giffels Webster

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

Copy: ☐ Owner ☐ Contractor ☐ Giffels Webster



Date of Issuance:

Effective Date:

Owner: Washington, Bruce and Romeo Parks and  
Recreation Commission

Owner's Contract No.:

Contractor:

Contractor's Project No.:

Engineer: Giffels Webster

Engineer's Project No.: 20408.01

Project: Gilcher-Crissman Park Pavilion

Contract Name:

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 11.01, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: \_\_\_\_\_

Specification(s)

Drawing(s) / Detail(s)

Description:

Attachments:

ISSUED:

RECEIVED:

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

Engineer (Authorized Signature)

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

Contractor (Authorized Signature)

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

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

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

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

Copy to: Owner





**Work Change Directive No. \_\_\_\_\_**

Date of Issuance:

Effective Date:

Owner: Washington, Bruce and Romeo Parks and  
Recreation Commission

Owner's Contract No.:

Contractor:

Contractor's Project No.:

Engineer: Giffels Webster

Engineer's Project No.: 20408.01

Project: Gilcher-Crissman Park Pavilion

Contract Name:

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments: *[List documents supporting change]***Purpose for Work Change Directive:**Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *[check one or both of the following]*☐ Non-agreement on pricing of proposed change.☐ Necessity to proceed for schedule or other Project reasons.**Estimated Change in Contract Price and Contract Times (non-binding, preliminary):**

Contract Price \$ [increase] [decrease].

Contract Time days [increase] [decrease].

**Basis of estimated change in Contract Price:**☐ Lump Sum☐ Unit Price☐ Cost of the Work☐ Other

RECOMMENDED:

AUTHORIZED BY:

RECEIVED:

By:

By:

By:

Engineer (Authorized Signature)

Owner (Authorized Signature)

Contractor (Authorized Signature)

Title:

Title:

Title:

Date:

Date:

Date:

Approved by Funding Agency (if applicable)

By:

Date:

Title:



Change Order No \_\_\_\_\_

Date of Issuance:	Effective Date:
Owner: Washington, Bruce and Romeo Parks and Recreation Commission	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer: Giffels Webster	Engineer's Project No.: 20408.01
Project: Gilcher-Crissman Park Pavilion	Contract Name:

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments:

CHANGE IN CONTRACT PRICE	CHANGE IN CONTRACT TIMES <i>[note changes in Milestones if applicable]</i>
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] from previously approved Change Orders No. ____ to No. ____: \$ _____	[Increase] [Decrease] from previously approved Change Orders No. ____ to No. ____: Substantial Completion: _____ Ready for Final Payment: _____ days
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] of this Change Order: \$ _____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ days or dates

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____ Engineer (if required)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____	Title: _____
Date: _____	Date: _____	Date: _____



**CERTIFICATE OF COMPLETION FORM**

(STATE OF MICHIGAN)

) ss

COUNTY OF

)

The Undersigned, \_\_\_\_\_, hereby represents that on \_\_\_\_\_ he (it) was awarded a contract by Washington, Bruce and Romeo Parks and Recreation Commission, hereinafter called the Owner, for \$\_\_\_\_\_ in accordance with the terms and conditions of Contract No. 20408.01; and the Undersigned further represents that the subject work has now been accomplished, and the said contract has now been completed.

The Undersigned hereby warrants and certifies that all of his (its) indebtedness arising by reason of the said contract has been fully paid or satisfactorily secured; and that all claims from sub-contractors and others for labor and material used in accomplishing the said project, as well as all other claims arising from the performance of the said contract, have been fully paid or satisfactorily settled. The Undersigned further agrees that, if any claim should hereinafter arise, he (it) shall assume responsibility for the same immediately upon request to do so by the Owner.

The Undersigned, for a valuable consideration, the receipt of which is hereby acknowledged, does further hereby waive, release and relinquish any and all claims or right of lien which the undersigned now has or may hereafter acquire upon the subject premises for labor and material used in accomplishing said project owned by the Owner.

This affidavit is freely and voluntarily given with full knowledge of the facts, on this \_\_\_\_ day of \_\_\_\_\_, in the year \_\_\_\_\_.

Subscribed and sworn to before me, a  
Notary Public in and for \_\_\_\_\_  
County, Michigan, on this \_\_\_\_ day of  
\_\_\_\_\_, in the year \_\_\_\_\_.

(CONTRACTOR)

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

Notary Public:

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

My Commission Expires: \_\_\_\_\_



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

## STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by





These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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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*—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*—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. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field 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.
22. *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.
23. *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.



24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *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.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *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.
28. *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.
29. *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.
30. *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.
31. *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.
32. *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.
33. *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.
34. *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.
35. *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.
36. *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.

37. *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.
38. *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.
39. *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.
40. *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.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *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.
44. *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.
45. *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.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *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.

48. *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 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 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 Applications for Payment, 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. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to 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).

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

### 4.04 *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. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### **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.
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.
- 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.
  - 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 such 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.
- 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, 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 Field Order or a proposed Change Order 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 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. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

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, Work Change Directives, Field 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 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 Field 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.
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, 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*

- A. Owner's responsibilities with respect to Change Orders 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 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 is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment 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, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - 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. A Change Order 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.
  - 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, 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 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 Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field 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, 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. 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;
    - 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 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. 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 Orders

- A. Owner and Contractor shall execute appropriate Change Orders 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 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 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, 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, 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 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.
- 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. 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, 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 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. 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:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
  2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 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;
    - 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. 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;
  - 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. 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 shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy 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 Payment 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:*
  - 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 final Application for 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 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 for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment 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 to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *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 year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the 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 year 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 adjustments 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. 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.

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**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 1 – DEFINITIONS AND TERMINOLOGY***SC-1.01 Defined Terms*

SC-1.01 Add the following language at the end of Paragraph 1.01.A.40:

Work is considered “substantially complete” when the pavilion has been constructed, electrical service has been installed, and all sidewalks have been constructed. Work has reached final completion when all final restoration work has been completed.

**ARTICLE 2 – PRELIMINARY MATTERS***SC-2.02 Copies of Documents*

SC-2.02.A. Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner, via the Engineer, shall furnish to Contractor four hard copies of the Contract Documents, each containing the Agreement for Contractor execution. Owner shall then execute each Agreement and one physical executed Project Manual shall be furnished to the Contractor, one to the Engineer, and two to the Owner. One copy in electronic portable document format (PDF) may also be provided if requested.

**ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK***SC-4.01 Commencement of Contract Times; Notice to Proceed*

SC-4.01.A. Amend 4.01.A. to read as follows:

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 120th day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

**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. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

*SC-5.06 Hazardous Environmental Conditions*

SC-5.06 Add the following subparagraphs 5.06.A.1 and 5.06.A.2:

1. The following reports regarding Hazardous Environmental Conditions at the Site are known to Owner:
  - a. Report dated April 20, 1999, prepared by McDowell & Associates, Ferndale, MI, entitled: “Section 7a Compliance Analysis for an Approximate 21 Acre Parcel Located at West 29 Mile Road in Washington Township, Macomb County, Michigan Requested in Conjunction with a Baseline Environmental Report”, consisting of 4 pages.
  - b. Report dated April 20, 1999, prepared by McDowell & Associates, Ferndale, MI, entitled: “Baseline Environmental Assessment”, consisting of 7 pages.
  - c. Determination dated July 22, 1999, prepared by the Michigan Department of Environmental Quality (now Michigan Department of the Environment, Great Lake, and Energy), Lansing, MI, entitled: “Determination on Baseline Environmental Assessment Petition Including Compliance with Section 20107a”, consisting of 2 pages.
  - d. Report dated October 17, 2002, prepared by McDowell & Associates, Ferndale, MI, entitled: “Approximate 21 Acre Parcel, Vicinity of Former 6211 W 29 Mile Road, Washington Township, Macomb County, MI”, consisting of 2 pages.
  - e. Report dated September 23, 2003, prepared by Professional Engineering Associates, Inc., Troy, MI and McDowell & Associates, Ferndale, MI, entitled: “Stratford Washington, LLC Land Donation”, consisting of 20 pages.
  - f. Report dated February 14, 2025, prepared by Atlas Technical Consultants, LLC, Novi, MI, entitled: “Risk Mitigation Plan: Gilcher-Crissman Park Construction”, consisting of 12 pages.

**ARTICLE 6 – BONDS AND INSURANCE***SC-6.01 Performance, Payment, and Other Bonds*

SC-6.01 Add the following new paragraphs immediately after Paragraph 6.01.F

- G. Contractor shall provide a Maintenance Bond payable to the Owner in an amount equal to 50 percent of the Final Contract Price for a period of two years.
- H. Contractor shall provide a Performance Bond and a Payment Bond on forms provided and in accordance with Article 6.01 of the General Conditions.

*SC-6.02 Insurance—General Provisions*

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

1. In order to determine financial strength and reputation of insurance carriers, all companies providing the coverage required shall be licensed or approved by the Insurance Bureau of the State of Michigan and shall have a financial rating not lower than XI and a policy holder's service rating no lower than A- as listed in A.M. Best's Key Rating Guide, current edition. Companies with ratings lower than A-:XI will be acceptable only upon written consent of the Owner.

*SC-6.03 Contractor's Liability Insurance*

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

- K. Prior to commencement of the work, the Contractor is required to purchase and maintain during the term of the project the following insurance as will protect it and the Owner(s) from claims arising out of the work described in this Contract and performed by the Contractor, Subcontractor(s), or Sub-subcontractor(s):
  1. Workers' Compensation Insurance
    - a. Insurance shall be purchased by Contractor and shall include Statutory Workers' Compensation coverages as required by the State of Michigan and any other state(s) in which the Contractor performs work or any other state(s) in which Contractor is domiciled. In addition to statutory coverage, policy shall include Employer's Liability coverage for the limits declared below; disability benefit laws, if any; or Federal compensation acts such as U.S. Longshoremen or Harbor Worker's, Maritime Employment, or Railroad Compensation Act(s), if applicable. Self-insurance plans approved by the regulatory authorities in the state in which work on this project is performed are acceptable.
  2. Comprehensive General Liability
    - a. Policy shall be purchased by Contractor and shall cover bodily injury to persons other than employees and for damage to tangible property, including loss of use thereof, including the following exposure:
      - 1) All premises and operations.
      - 2) Explosion, collapse, and underground damage.
      - 3) Contractor's Protective coverage for independent contractors or subcontractors employed by him.
      - 4) Contractual Liability for obligations assumed in the Indemnification-Hold Harmless agreement found in Section 7.18 for the General Conditions of this Contract.
      - 5) The usual Personal Injury Liability endorsement with no exclusions pertaining to employment.
      - 6) Products and Completed Operations.
  3. Comprehensive Automobile Liability

- a. Policy shall be purchased by the Contractor and shall cover bodily injury and property damage arising out of the ownership, maintenance, or use of any motor vehicle, including owned, non-owned and hired vehicles. In light of standard policy provisions concerning (a) loading and unloading and (b) definitions pertaining to motor vehicles licensed for road use vs. unlicensed or self-propelled construction equipment, it is strongly recommended that the Comprehensive General Liability and the Comprehensive Auto Liability be written by the same insurance carrier, though not necessarily in one policy.
4. Owner's Protective Liability
  - a. Policy shall be purchased for the Owner to protect the Owner, the Engineer, their consultants, agents, employees, and such public corporations in whose jurisdiction the work is located for their contingent liability for work performed by the Contractor, the Subcontractor(s) or the Sub-subcontractor(s) under this Contract.
5. Additional Insured Requirements
  - a. The Owner or its representative may, for certain projects, require limits higher than those stated. The Contractor is granted the option of arranging coverage under a single policy for the full limit required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy equal to the total limit(s) requested. Umbrella or Excess policy wording shall be at least as broad as the primary or underlying policy(ies) and shall apply both to the contractor's general liability and to his automobile liability insurance.
  - b. Insurance required for the Contractor shall include the following as additional insured:
    - 1) Washington, Bruce, and Romeo Parks and Recreation Commission its employees, its Board and individual members thereof, agents and/or authorized representatives for Parks and Recreation.
    - 2) Charter Township of Washington, its employees, its Township Board and individual members thereof, agents and/or authorized representatives for the Township.
    - 3) Giffels-Webster Engineers, Inc., 28 West Adams Suite 1200, Detroit, MI., 48226, and their consultants, agents, employees, and/or authorized representatives.
6. Contractor's Pollution Liability Insurance
  - a. If required below, 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 3 years after final completion.
7. Contractor's Professional Liability Insurance
  - a. 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.

8. 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.
- L. 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:

Coverage A – Workers' Compensation	\$ <u>Statutory</u>
Coverage B – Employer's Liability	
- Each Accident	\$ <u>1,000,000</u>
- Disease – Policy Limit	\$ <u>1,000,000</u>
- Disease – Each Employee	\$ <u>1,000,000</u>

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

Products - Completed Operations Aggregate Limit	\$ <u>2,000,000</u>
General Aggregate Limit	\$ <u>4,000,000</u>
Each Occurrence Limit	\$ <u>2,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Fire Damage Legal	\$ <u>100,000</u>
Medical Payments	\$ <u>10,000</u>

Afforded General Aggregate Limits shall be secured per project and shall be reflected on successful Bidder's Certificate of Liability Insurance.

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

Combined Single Limit	\$ <u>1,000,000</u>
OR	
Bodily Injury	
- Each Person	\$ <u>500,000</u>
Bodily Injury	
- Each Accident	\$ <u>1,000,000</u>
Property Damage	
- Each Accident	\$ <u>500,000</u>

Afforded Automobile Liability coverage shall be secured for "Any Auto" on successful Bidder's Certificate of Liability Insurance.

## 4. Owner's Protective Liability:

Products - Completed Operations Aggregate Limit	\$ <u>2,000,000</u>
General Aggregate Limit	\$ <u>2,000,000</u>
Each Occurrence Limit	\$ <u>1,000,000</u>
Personal and Advertising Injury	\$ <u>1,000,000</u>
Fire Damage Legal	\$ <u>100,000</u>
Medical Payments	\$ <u>10,000</u>

## 5. Excess or Umbrella Liability:

Products - Completed Operations Aggregate Limit	\$ <u>3,000,000</u>
General Aggregate Limit	\$ <u>3,000,000</u>
Each Occurrence Limit	\$ <u>3,000,000</u>

All underlying liability policies (General Liability, Automobile Liability, and Employer's Liability) must be included and acknowledged as underlying policies covered by Excess or Umbrella Liability.

## 6. Contractor's Pollution Liability:

Each Occurrence	\$ <u>Not applicable</u>
General Aggregate	\$ <u>Not applicable</u>



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

## 7. Contractor's Professional Liability:

Each Claim	\$ <u>Not applicable</u>
Annual Aggregate	\$ <u>Not applicable</u>

## M. Other Insurance Requirements include the following:

1. *Notice of Cancellation of Intent not to Renew:* Policies will be endorsed to provide that at least 30 days written notice shall be given to the Owner and to the Engineer of cancellation or of intent not to renew.
2. *Evidence of Coverage:* Prior to commencement of the Work, the Contractor shall furnish to the Owner four (4) Certificates of Insurance. The Owner reserves the right to request complete copies of policies it deemed necessary

to ascertain details of coverage not provided by the certificates. Such policy copies shall be "Originally Signed Copies" and so designated.

3. *Waivers of Subrogate:* Contractor shall secure Waivers of Subrogation in favor of the Charter Township of Washington under the Contractor's General Liability and Workers' Compensation Coverages.

## 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 the following: "...all Work at the Site shall be performed during regular working hours (7am – 7pm), Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday without written authorization from Owner."

## ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

### SC-10.03 *Project Representative*

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

- B. The Resident Project Representative (RPR) refers to Giffels Webster's inspector(s) and/or construction administrator(s) for the project. They will be Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.
  1. General: RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner only with the knowledge of and under the direction of Engineer.
  2. Schedules: Review the progress schedule, schedule of Shop Drawing and Sample submittals, and Schedule of Values prepared by Contractor and consult with Engineer concerning 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 Engineer's 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 Engineer 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 to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
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 Engineer of availability of Samples for examination.
  - c. Advise Engineer 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 by Engineer.
7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, if any, to Engineer. 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 Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Report to Engineer whenever RPR believes that any 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 Engineer 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, and that Contractor maintains adequate records thereof.
  - b. Observe, record, and report to Engineer 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 Change Orders, Field 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; and send copies to Engineer.

- 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. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the Progress Schedule and schedule of Shop Drawing and Sample submittals.
  - b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
  - c. Immediately notify Engineer 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 applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the Schedule of Values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.
- 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, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.
- 14. Completion:
  - a. Participate in Engineer's 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 Engineer's 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 Engineer 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).
  - 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.
8. Authorize Owner to occupy the Project in whole or in part.

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

##### *SC-11.06 Change Proposals*

SC-11.06.A.3 Delete Paragraph 11.06.A.3 in its entirety and insert the following in its place:

- A. Engineer's written action under Paragraph 11.06.A.2 will be final and binding upon Owner and Contractor but does not preclude Owner and/or Contractor from any rights and remedies available under Michigan Law.

#### **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) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment according to the applicable Blue Book Category of the most current version of the Blue Book Network. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than \$1,000 will be considered small tools.

*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 25 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 25 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 Request for Change Order, 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.

**ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD***SC-15.01 Review of Applications*

SC-15.01.D.1 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. Within 30 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.



SECTION 01 00 00  
GENERAL REQUIREMENTS

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**01 10 00 SUMMARY**

- A. The purpose of Section 01 00 00 General Requirements is to establish detailed requirements under which the Owner shall judge the Contractor's performance and accept or reject completed portions of any or all of the Work. They apply to types of work generally relevant to all types of projects and are not intended to instruct the Contractor in the means and methods of completing the Work.
- B. General Requirements shall not be confused with the purpose of Section 00 72 00 General Conditions which is to establish basic rights, responsibilities, and relationships of the parties to the Contract.
- C. Under each item of Work listed on the Bid Form and herein described, the Contractor shall furnish all labor and materials; tools, plant, equipment, supplies, and bonds; costs of heating, lighting, and power; tests of construction materials as required under any section of these Specifications; and all Work that may be specifically described and included in the following Divisions (under the respective items, whether included in part of a pay item or otherwise specified) necessary to complete the Work in accordance with the obvious or expressed intent of the Contract.
- D. Should the Contractor fail to comply with these General Requirements, or be dilatory in carrying out specific instructions of the Engineer, those having authority may, with or without notice to the Contractor, take such remedial measures deemed necessary and charge the Contractor with any costs incurred therefor. Any such action, however, shall in no way serve to release the Contractor from its general or particular liability for the safety of the traveling public or the protection of property.
- E. Order of Precedence
  - 1. The specifications in this book shall be taken in the following order of preference. The number one specification supersedes all specifications below if there is a conflict between the specifications.
    - a. General Conditions
    - b. Special Specifications and Provisions
    - c. Project plans
    - d. 2020 Michigan Department of Transportation Standard Specifications for Construction
  - 2. This order shall hold throughout these specifications and shall be considered as part of the Contract Documents.
- F. Work Sequence
  - 1. The Contractor shall submit for approval a construction sequence, detailed Drawings, and written explanations of all temporary facilities and appurtenances intended to be used in maintaining the uninterrupted operations of the existing facilities.
  - 2. In general, Contractor shall have control over the sequence/order of execution of the several parts of the Work to be done under the Contract and over the method of accomplishing the required results, except as some particular sequence or method may be distinctly demanded by the Contract Documents. Engineer may, however, make such reasonable requirements as may, in Engineer's judgment, be necessary for the proper and effective protection of Work partially or wholly completed, and to those requirements Contractor shall conform.

**01 11 00 SUMMARY OF WORK**

- A. The Project consists of constructing a 5040 square foot open air pavilion at Gilcher Crissman Park with associated concrete pavement, footings, and electrical.

**01 12 00 MULTIPLE CONTRACT SUMMARY**

- A. Contractor shall cooperate fully with separate contractors in nearby areas so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract.
- B. List of other Contracts:
  - 1. NOT USED

**01 13 00 RESERVED FOR FUTURE****01 14 00 WORK RESTRICTIONS**

- A. In accordance with the Owner's ordinance, Contractor may only perform Work under this Contract during normal hours and weekdays unless specifically authorized by the Engineer and by written approval of the Owner. See Section 00 73 00 Supplementary Conditions.
- B. At the beginning of Work on this Contract, Contractor shall notify the Engineer in writing of the days and hours that will constitute a normal workweek. Whenever the Contractor intends to depart from the specified workweek, it must notify the Engineer at least 24 hours in advance in writing of the change so that the Engineer may make the necessary arrangements to have required inspectors assigned to the Work. Failure to give such advance notice may cause the Engineer to require removal or uncovering of the Work performed without the Engineer's knowledge.
- C. If an emergency arises that would require Work to be performed outside of the normal working hours of the specified workweek, to save or protect life or property, the requirements of the 24-hour notification shall be waived. Contractor shall notify the Engineer as soon as an emergency exists that necessitates a change in or extension of the normal hours of Work. However, the determination of the existence of an emergency is subject to review and revision by the Engineer.
- D. The normal workweek schedule and/or daily hours of Work will be altered at the Engineer's direction, when, in its judgment, such alteration is necessary to maintain the required progress of the Work.

**01 14 13 ACCESS TO SITE**

- A. In its operations, the Contractor shall interfere as little as possible with traffic and, in all cases, shall confine its operations to the minimum space possible.
- B. Stockpiling of construction material and equipment will be permitted as necessary, but in no case shall traveled ways, driveways, or entrances be obstructed without the approval of the Engineer.

**01 14 16 COORDINATION WITH OCCUPANTS**

- A. As required by the Engineer, Contractor, at its own cost, shall provide written notification to all affected residents and businesses of pending Work on their utilities by delivering said notice to an occupant at each location if home, or by leaving the notice if no one is there at the time of visit.
  - 1. Notification of the start of Work must be given at least 24 hours prior to the start of Work for each service line and shall include the date(s) and proposed timing of Work.
  - 2. Should the proposed schedule be altered, a new notice shall be delivered showing the corrected dates.

3. Notice shall request the homeowner / business to fill all floor drains with water to alleviate any "odor" from entering the building as well as any other corrective actions.
  4. Contractor shall provide the Engineer with a copy of notices provided to residences/businesses.
  5. Engineer shall not allow any Work until proof of residential notice has been provided.
  6. Prior to any Work commencing, the Owner shall review the prepared notice and has the right to request changes be made within the notice.
- B. Contractor is responsible to maintain access to businesses at all times, or as needed, based on resident/business owner discussions.
- C. Access to rear-yard easements, if any, may be accomplished via an alley, residential street, or private property. In no instance shall the Contractor be permitted to access private property with any construction vehicles or heavy equipment. Contractor shall provide the Engineer with its procedure for accessing easements through private property.
- D. Complaints
1. The Engineer will investigate all complaints received from property owners regarding the Work done by the Contractor and shall also have the right to make investigations on its own initiative. If, in the opinion of the Engineer, the Work has not been done in accordance with this Contract, it shall immediately notify the Contractor, informing it of the nature of the complaint so that it may be remedied.
  2. Should the Contractor fail to remedy the complaint within the time allotted, the Engineer may do so with the Owner's forces and deduct any cost thereof from the amount due the Contractor at the time of Application for Payment.
  3. Alternatively, the Engineer may notify the Contractor to stop all other Work under this Contract until the complaint has been remedied. The Owner shall not be required to pay for any Work done by the Contractor in violation of any such stop order, and the amount due for any such Work shall be regarded as liquidated damages due to the Owner because of such breach of this Contract.

**01 14 19 USE OF SITE**

- A. Contractor shall limit use of the premises to construction activities in areas permitted by Law, Ordinances, Permits, and the Contract Documents, allow for Owner occupancy and use by the public, and confine operations to areas within Contract limits indicated. Sections of the Site beyond areas in which construction operations are indicated are not to be disturbed.
- B. Easements, Public Rights-of-Way, and Permits
1. The necessary rights-of-way and easements for construction across or under private properties have been or will be obtained by the Owner. In carrying out the Work within private rights-of-way and easements, the Contractor shall take due and proper precautions against any injury to adjacent properties and structures and shall comply with the conditions outlined in the easement and/or right-of-way agreements.
  2. Additional Easements

- a. Permanent and temporary easements have been obtained for the work areas indicated on the Contract Drawings and are further listed below.
  - 1) None
- b. Permanent and temporary easements have not been obtained for the work areas indicated on the Contract Drawings and are further listed below.
  - 1) None
- 3. All Work within railroad rights-of-way shall be conducted in accordance with the requirements of the railroad company having jurisdiction over the right-of-way.
- 4. Contractor shall obtain permits to construct within public rights-of-way, and the Contractor shall also furnish any bonds and insurance which may be required per regulatory requirements.
- 5. Contractor shall pay for same at its own expense as well as for any inspection fees that may be required in connection with such permits, and in addition to all other requirements of these Contract documents, shall conduct its entire operation in accordance with provisions of such permits.
- 6. Should Contractor fail to furnish the Owner with proof of payment within 20 days after receipt of billing for the above-mentioned charges, the Owner will assume that the charges are equitable and unpaid, and the Owner will pay such bills, deducting that sum from any money due or to become due to the Contractor under the terms of this Contract.

**01 15 00 RESERVED FOR FUTURE**

**01 16 00 RESERVED FOR FUTURE**

**01 17 00 RESERVED FOR FUTURE**

**01 18 00 PROJECT UTILITY SOURCES**

- A. All Work in connection with public and/or private utilities required in the execution of the Contract shall be the responsibility of the Contractor. The Contractor shall plan and conduct the construction operations to avoid disturbing the existing facilities, piping, equipment, and services in any manner that will interrupt or impair operations, except as approved by the Engineer.
  - 1. Public utilities shall include but shall not necessarily be limited to: storm drainage facilities, sewerage systems, water systems (supply, transmission and/or distribution), and other utilities under the jurisdiction of a governmental unit.
  - 2. Private Utilities shall include but shall not necessarily be limited to all utilities under the jurisdiction of the Michigan Public Service Commission.
- B. The location of existing public and/or private utilities shown on the plans is in accordance with the best information available. No guarantee is given that the locations are absolutely accurate or that utilities other than those shown are not present. The Contractor shall, in any event, protect or have relocated, all utilities that might interfere with construction.
- C. In the event existing utilities are encountered along the line of the Work, the Contractor shall perform its operations in such a manner that utility services will not be interrupted and shall, at its own expense, make all temporary provisions to maintain such utility service.

- D. Any Work on public utilities, such as removal and replacement thereof (including chlorination and pressure testing of water mains) shall be done only with the agency or department in charge of the utility being fully informed 48 hours in advance of the Work and having an inspector on the site during the Work. Opening and/or closing of gate valves shall be performed by the local water department.
- E. All utility poles and overhead lines may not be shown or identified on the Drawings. The Contractor shall make its own determination of existing utility poles and facilities attached thereto and overhead lines. Where overhead utilities are encountered in the Work, Contractor shall arrange with the utility Owner for the necessary relocation or protection of its facilities. Protection, removal and replacement, tunneling, or supporting of existing utility poles and protection and removal and replacement of utilities which are installed on the poles, shall be provided either by the Contractor or by the utility Owner at the Contractor's expense, all in accordance with requirements of the utility Owner.
- F. Whenever, in the opinion of the Engineer, utilities need not be removed or relocated but can be maintained or secured without interfering with the proper execution of the Work, such maintenance shall be performed by the Contractor or shall be arranged for by the Contractor with the utilities concerned. The Work shall be accomplished at the Contractor's expense in such a manner as to secure the safety of the utility involved and the Work under construction.
- G. If the Contractor neglects to restore or repair damaged or injured public or private utilities or structures, the Owner may, upon recommendation by the Engineer and upon 48 hours written notice to the Contractor, proceed to restore or make good such damage or injury and deduct the cost thereof from any monies that are, or may become, due to the Contractor for the Work under this Contract.
- H. All costs in connection with the above Work, including inspection by the municipality and/or other authority (public or private) having jurisdiction, shall be considered as incidental to the Contract price except as otherwise provided herein.
- I. Utility Protection
  - 1. The Contractor shall submit notice of the date and time when it intends to begin Work in an area, 72 hours (three working days) in advance of construction, to the owner(s) of those private utilities located in the area of the proposed construction. The Contractor shall also, at such time, request that the actual location of existing private utilities be confirmed by the owner(s) thereof.
  - 2. 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 with 72 hours' notice and notify representatives of other utilities located in the vicinity of the Work.
  - 3. Where it is the policy of any utility owner to make its own repairs to damaged conduit or other structures, the Contractor shall fully cooperate with the utility owner and shall see that its operations interfere as little as possible with those operations.

**01 19 00 RESERVED FOR FUTURE****END OF SECTION**

**01 20 00 PRICE AND PAYMENT PROCEDURES**

- A. The purpose of Section 01 20 00 is to provide administrative and procedural requirements for cash and quantity allowances, unit price measurement and payment, alternate Bids or Proposals, value analysis, consideration of requests for substitution during the construction stage, modifications to the Contract Documents, and processing payments.
- B. All labor, material, equipment, power, software, hardware, and maintenance needed to complete the Project Scope is incidental to the Work, including all Work identified on the Drawings, but not included as a specific Contract pay item, except for Work that would be considered additional Work due to unforeseen conditions.
- C. For Work without a specific pay item, all Work described in the full General Requirements are included in the Cost of the Work. This Work includes, but is not limited to the following:
  - 1. All necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, profit, and everything necessary for each item to function as intended
  - 2. Implementation and maintenance of traffic control, soil erosion, and sedimentation control devices
  - 3. Restoration such as site cleanup; surface restoration; ditch and/or swale restoration; and road, shoulder, curb & gutter, sidewalk, parking lot, paved spillways, and driveway restoration
  - 4. Erection of temporary work signage
  - 5. Fence removal and replacement
  - 6. Mailbox removal and replacement
  - 7. Irrigation system removal, replacement, repair, and testing
  - 8. Final grading, seeding, and cleanup
  - 9. Coordination of mail delivery and refuse removal with residents, post office, and refuse collectors
  - 10. Temporary 21AA Maintenance Aggregate installation, maintenance, and removal
  - 11. Support of utility poles and existing underground utilities during excavation as needed for utility access
  - 12. Dewatering facilities for removal and disposal of water from drains, sewers, trenches, or other excavations which may interfere with execution of Work.
  - 13. Removal, salvage, and replacement of damaged street signs
  - 14. Removal of trees smaller than 6 inches in diameter
  - 15. Removal and replace damaged shrubs, bushes, trees, and other landscaping not designated for removal
  - 16. Protection of existing landscaping
  - 17. Proper ventilation of underground utilities and structures required for access
  - 18. Removal of surplus material encountered during operations constituting a disposal surplus during or at the end of the Work period

**01 21 00 ALLOWANCES**

- A. See Section 00 72 00 General Conditions for conditions related to allowance requirements.
- B. Costs included in Allowances:
  - 1. Non-refundable fees associated with obtaining permits from permitting agencies.
- C. Costs Not Included in Allowance:
  - 1. Contractor's labor service required to arrange for and obtain utility service and permits.
  - 2. Costs for bonds and insurance required by permitting agencies for permits.
  - 3. Monies deposited with permitting agencies which is not refunded due to Contractor's neglect or improper operations.
- D. Funds from the cash allowance shall be disbursed only after the Engineer has received written documentation of costs.
- E. Contractor is responsible for obtaining all necessary permits, submitting those costs to the Engineer as required, and arranging for the installation of primary electrical and telephone service.
- F. Any additional Bid item allowances are defined below.

**01 22 00 UNIT PRICES****01 22 13 UNIT PRICE MEASUREMENT**

- A. Due and proper measurements shall be taken by the Engineer during the progress of the Work, or any part thereof, either before or after commencement of construction. These measurements shall not warrant any claim for damages for anticipated profits on the Work to be dispensed with. If such measurements increase or decrease the amount of Work to be done, such increase or decrease shall be paid for according to actual quantity done at the price stipulated for such Work on the Bid Form.
- B. Lump Sum Prices
  - 1. In cases where all required items on the Bid Form are Lump Sum, Contractor shall, within 10 days of receipt of the Notice to Proceed, submit a complete breakdown of the Contract Amount.
  - 2. The breakdown shall show the value assigned to each part of the Work, including an allowance for profit and overhead.
  - 3. The breakdown will not be considered as fixing a basis for additions to or deductions from the Contract Amount.
- C. Unit Prices
  - 1. In cases where unit prices form the basis for payment under the Contract, the summation of amounts determined by multiplying the total number of each of the completed units of Work by the unit price stated in the Bid Form for that item shall be used as the basis for payment requests. The quantities contained in the Bid Form are approximate only. Final payment will be made for the actual number of units that are incorporated into or made necessary by the Work covered in the Contract.
  - 2. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, profit, and everything necessary for each item to function as intended.



3. Owner reserves the right to reject the Contractor's measurement of Work in place that involves use of established unit prices and to have this Work measured. Furthermore, the Owner reserves the right to increase, decrease, or eliminate any quantities for items listed in the Contractor's Bid or which become part of the Contract Documents.

**01 22 16 UNIT PRICE PAYMENT****A. Mobilization, 5% Max**

1. Item(s) shall be completed in accordance with Section 01 71 13 Mobilization and the 2020 MDOT Standard Specifications.
2. 50% payment shall be made after 5% of the original Contract amount is earned.
3. Final 50% payment shall be made after 25% of the original Contract amount is earned.
4. Shall not exceed 5% of the gross Proposal amount for the Contract.

**B. Cash Allowance (Permits)**

1. Item(s) shall be completed in accordance with Section 00 31 46 Permits and 01 21 00 Allowances.
2. Measured and paid in accordance with the fees for each applicable agency as listed with Section 00 31 46 Permits. Fees shall not exceed the allowance amount.
3. Contractor shall submit backup documentation for each permit to be reimbursed.
4. Contractor shall be reimbursed for the fee and any deposit used by the agency. Contractor is required to submit project approval by each agency and documentation of amount of deposit returned, if any, for final payment.

**C. Non Haz Contaminated Material Handling and Disposal, LM**

1. Item(s) shall be completed in accordance with 20SP-205A-01 Non-Hazardous Contaminated Material Handling and Disposal and the geotechnical information provided in the bid specifications.
2. Payment shall be made only for the actual quantity (CY) of material removed as shown on the approved construction plans and disposed of at a class II landfill.
3. Quantity on construction plans estimated based on Engineer judgement for amount of material to be removed. Contractor to work with field inspector/Engineer for final quantities based on trench width & quality of existing aggregate.
4. Work includes, but is not limited to, removing and disposing of soil or aggregate materials at a class II landfill.

**D. Clean Fill**

1. Item(s) shall be completed in accordance with Section 31 20 00 Earth Moving, 31 23 16.13 Trenching, and 31 23 23.13 Backfill, and the geotechnical information provided in the bid specifications.
2. Payment shall be made only for the actual quantity (CY) of clean fill delivered to the site and placed as shown on the approved construction plans.
3. Quantity on construction plans estimated based on Engineer judgement for amount of fill material to be required. Contractor to work with field inspector/Engineer for final quantities based on trench width & quality of existing aggregate.

4. Work includes, but is not limited to, delivery, placement, and compaction of clean fill.
- E. Topsoil Surface, Salv, 6 Inch
  1. Item(s) shall be completed in accordance with Section 31 20 00 Earth Moving Section 32 05 05 Selective Demolition for Exterior Improvements, and the MDOT 2020 Standard Specifications.
  2. Payment shall be made only for the actual quantity (SY) of material salvaged as shown on the approved construction plans
  3. Quantity on construction plans estimated based on Engineer judgement for amount of material to be removed. Contractor to work with field inspector/Engineer for final quantities based on quality of existing material.
  4. Work includes, but is not limited to, excavating 6" of topsoil and stockpiling on site.
- F. Erosion Control, Silt Fence
  1. Item(s) shall be completed in accordance with Section 01 57 13 Temporary Erosion and Sediment Control, Soil Erosion & Sediment Control Notes and Details on the plans, the Macomb County Department of Roads Standard Details, and Macomb County Public Works specifications.
  2. Payment shall be made only for the actual length (LF) of fence installed & removed and performed as shown on the approved construction plans.
  3. Item also includes all maintenance required to meet MCPW specification.
- G. Subgrade Undercutting, Type II, Modified
  1. Item(s) shall be completed in accordance with Section 31 20 00 Earth Moving, 31 23 23.13 Backfill, Section 32 05 05 Selective Demolition for Exterior Improvements, the MDOT 2020 Standard Specifications, special provision, and the geotechnical information provided in the bid specifications.
  2. Payment shall be made only for the actual quantity (CY) of undercuts.
  3. Quantity on construction plans estimated based on Engineer judgement for amount of material to be removed. Contractor to work with field inspector/Engineer for final quantities based on quality of existing aggregate.
  4. Work includes, but is not limited to, removing of soil or aggregate, backfilling with 21AA aggregate, and compaction.
- H. Sidewalk, Conc, 4 Inch
  1. Item(s) shall be completed in accordance with Section 32 13 13 Concrete Paving and the 2020 MDOT Standard Specifications.
  2. Payment shall be made only for the quantity installed (SF) and performed as shown on the Drawings.
  3. Work includes all joints (contraction and expansion), joint sealant, and curing compound as shown on the Drawings and County standards.
- I. Aggregate Base, 4 Inch, Class II Sand
  1. Item(s) shall be completed in accordance with Section 31 05 16 Aggregates for Earthwork, Section 32 11 23 Aggregate Base Courses, the 2020 MDOT Standard Specifications, and MCDR Standard Paving Details.
  2. Payment shall be made only for the actual quantity installed (SYD) and performed as shown on the Drawings.
- J. 5040 SF Open Air Pavilion

1. Item(s) shall be completed in accordance with the construction plans and example drawings by building supplier Coverworx.
2. Payment shall be made at the discretion of the Owner based on percentage of construction. Contractor to submit schedule of values for the lump sum item that can be used to bill against.
3. Item is to include all work associated with building a complete pavilion as shown on the plans. This work includes, but is not limited to, building materials, aggregate base, concrete foundation, steel reinforcement, electrical to outlet cutouts in building, roofing, etc. Item includes construction of the entire system.
4. Item also includes design and submittal for Building Department review and approval. Contractor to provide documentation on building supplier other than Coverworx for review and approval.

K. Electrical Service for Pavilion

1. Item(s) shall be completed in accordance with approved construction plans and Washington Township Building Department.
2. Payment shall be made once full electrical service is provided to the pavilion.
3. Item includes installation of conduit, wiring and connection from existing power source to new location.
4. Contractor shall ensure the electrical panel can handle the load from the proposed pavilion prior to bid opening.

L. Restoration

1. Item(s) shall be completed in accordance with Section 01 74 23 Final Cleaning.
2. Payment shall be made at the discretion of the Engineer as an estimated percentage of the complete project. 100% payment shall be made following vegetation establishment of areas needing restoration.

**01 23 00 ALTERNATES**

- A. NOT USED

**01 24 00 VALUE ANALYSIS**

- A. Owner reserves the right to perform value engineering on the Contractor's submitted Bid Form prior to creation of a final Agreement.
- B. Analysis takes place between the Engineer and Owner followed by negotiations with Contractor regarding deductions and/or alternative items.

**01 25 00 SUBSTITUTION PROCEDURES**

- A. Substitutions are defined as changes in products, materials, fabrication, equipment, and methods of construction from those required by the Contract Documents and proposed by the Contractor.
- B. Engineer will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Engineer.
- C. The administrative requirements for submittal procedures under Section 01 33 23 Shop Drawings, Product Data, and Samples further apply to substitutions.
- D. Unless explicitly stated as a Basis-of-Design, any reference to specific products or catalog numbers in the plans and/or specifications shall not be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design. Should the Contractor desire to make substitutions, it shall submit the following:

1. A complete list of proposed desired substitutions prior to signing of the Contract.
  2. A full description of the proposed substitution, the reason for the substitution, supporting documentation of the substitution verifying its conformance with the specifications, and a statement of the substitute's effect on adjacent or related components.
  3. Engineering, catalog, and performance history data as required by the Engineer.
  4. List of similar installations for completed projects with project names contact information of engineers and owners.
  5. A detailed comparison of significant characteristics of proposed substitution with those of the Work specified. Significant characteristics may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  6. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  7. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
  8. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
  9. If the proposed substitution cannot be provided within the Contract Time and/or Price, the Contractor shall submit the substitution in the form of a Request for Change Order along with supporting cost and credit documentation under Section 01 26 00 Contract Modification Procedures.
- E. The following conditions must be satisfied for the Engineer to consider the Contractor's proposed substitution:
1. Requested substitution does not require extensive revisions to the Contract Documents.
  2. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  3. Substitution request is fully documented and properly submitted per Section 01 33 23 Shop Drawings, Product Data, and Samples.
  4. Requested substitution will not adversely affect Contractor's Construction Schedule.
  5. Requested substitution has received necessary approvals from authorities having jurisdiction.
  6. Requested substitution is compatible with other portions of the Work or Contractor has an approved plan for adapting the design to the proposed substitute item.
  7. Requested substitution has been coordinated with other portions of the Work.
  8. Requested substitution provides specified warranty.
- F. Contractor shall coordinate related Work and modify surrounding Work to integrate the Work for each substitution.

- G. Contractor shall abide by the Engineer's judgement when proposed substitute materials or items of equipment are judged to be unacceptable and shall furnish the specified material or item of equipment in such case. All proposals for substitutions shall be submitted in writing by the Prime Contractor only, with its stamped approval, and not by Subcontractors or Suppliers. The Engineer will approve or reject proposed substitutions in writing within a reasonable time. No substitute materials shall be used unless approved in writing.

**01 26 00 CONTRACT MODIFICATION PROCEDURES****01 26 13 REQUESTS FOR INTERPRETATION**

- A. Immediately upon discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, Contractor shall prepare and submit a Request for Interpretation (RFI) on the form specified.
- B. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
- C. Contractor shall coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- D. Content of the RFI
1. Detailed, legible description of item needing interpretation
  2. Project name and number
  3. Date of issuance
  4. Names of Owner, Engineer, and Contractor
  5. RFI number, numbered sequentially
  6. Specification section, title, and related paragraph(s), as appropriate
  7. Drawing number and detail references, as appropriate
  8. Field dimensions and conditions, as appropriate
  9. Contractor's signature
  10. Attachments such as drawings, descriptions, photos, measurements, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, standards, and details of affected materials, assemblies, and attachments.
- E. Engineer shall review each RFI, determine any action required, and return a response to the Contractor within ten working days.
- F. Engineer's action may include a request for additional information, in which case, additional working days will be required to provide a response.
- G. Any official response from the Engineer shall not be considered an official change to the Scope of Work until further modification forms are approved.

**01 26 39 FIELD ORDERS**

- A. Owner shall submit requests, via the Engineer, to the Contractor for minor changes in the Work without changes in Contract Price or Contract Times.
- B. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this work.

**01 26 49 WORK CHANGE DIRECTIVES**

- A. Owner shall submit directives, via the Engineer, to the Contractor to proceed promptly with changes to the Work, prior to agreeing to changes on Contract Price and Contract Times only if one or both of the following conditions are met:
  - 1. Owner and Contractor cannot agree on pricing of proposed change.
  - 2. Owner has indicated the necessity to proceed for schedule or other Project reasons.
- B. The estimated change in Contract Price and Contract Times shall be stated on Work Change Directive and be considered non-binding and preliminary.

**01 26 57 CHANGE ORDER REQUESTS**

- A. Contractor shall submit written requests for payments for Extra Work to the Owner, via the Engineer. No claim for Payment for extra Work shall be valid unless so made. In all cases, the Contractor's itemized estimate sheets showing all labor and material shall be submitted to the Engineer. Contractor shall indicate an extension of the Contract times, if applicable.
- B. Either the Owner, via the Engineer, may initiate communications with the Contractor to submit a request or the Contractor may submit one when the need for one is identified by the Contractor.
  - 1. Engineer may issue a request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change, and the period during which the requested price will be considered valid. Contractor shall prepare and submit an estimate within 10 days.
  - 2. Contractor may propose changes by submitting a request to the Engineer describing the proposed change and its full effect on the Work including a statement describing the reason for the change and its effect on the Contract Price and Contract Times. Statement shall include full documentation and a statement describing the effect on Work by separate or other contractor and document any requested substitutions in accordance with Section 01 25 00 Substitution Procedures.
- C. If necessary, Engineer will request additional information or documentation for evaluation within 7 days of receipt of a Change Order Request. Engineer will notify Contractor of acceptance or rejection of the Request within 15 days of receipt of initial request, or 7 days of receipt of additional information or documentation, whichever is later.

**01 26 63 CHANGE ORDERS**

- A. Owner, via the Engineer, shall issue the official Change Order for signatures of parties in response to the Contractor's approved request for Extra Work.
- B. The Owner's order for Extra Work shall be in the form of a Change Order to be signed by both Owner and Contractor and shall specify any extension of the Contract Times and one of the following methods of payment:
  - 1. Unit Price Change Order: Unit Prices or combinations of Unit Prices which formed the basis of the original Contract. A balancing change order shall be issued by the Engineer at the conclusion of the Project to reflect final quantities at these unit prices.
  - 2. Stipulated Price Change Order: Prices or combinations of prices which did not form the basis of the original Contract. Sum shall be based on proposal request and Contractor's price quotation

(based on time and material) or Contractor's request for a Change Order as approved by Engineer. Change Order shall be executed prior to beginning additional Work.

3. Time and Material Change Order: Submit itemized account and supporting data after completion of change within time limits indicated in Section 00 72 00 General Conditions. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work. Engineer shall determine the change allowable in Contract Price and Contract Times as provided in the Contract Documents. Actual cost of direct Work by the Contractor and any subcontractor plus percentages for overhead and profit are also specified under Section 00 72 00 General Conditions.
  - a. Labor Costs shall be the amount shown on the Contractor's payroll plus unemployment taxes and Workmen's Compensation Insurance when such additional taxes or insurance costs can be shown to have been incurred.
  - b. Material Costs shall be the net price paid for material delivered to the site of the Work.
  - c. Equipment and equipment rental shall be the actual additional costs incurred for necessary equipment actually used in the Extra Work. No payment will be made for equipment not used in the Extra Work. All costs shall be computed using the basic monthly rental rate as published in the current edition of "Rental Rates for Construction Equipment Bluebook" published by the Equipment Guide Book Company. For periods of less than a month, the daily rate shall be computed as 1/22 of the monthly rate with no allowance for fuel or other operating costs.

**01 27 00 RESERVED FOR FUTURE**

**01 28 00 RESERVED FOR FUTURE**

**01 29 00 PAYMENT PROCEDURES**

**01 29 73 SCHEDULE OF VALUES**

- A. In cases where all required items on the Bid Form are Lump Sum, the Contractor shall provide and continuously update a Schedule of Values.
- B. Contractor to coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  1. Contractor to correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets,
    - b. Submittals Schedule,
    - c. Contractor's Construction Schedule.
  2. Contractor to submit the Schedule of Values to Engineer at earliest possible date but no later than 10 days after the Notice to Proceed.
- C. Format and Content
  1. Use the Bid Form and Table of Contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division
  - b. Description of the Work
  - c. Name of subcontractor
  - d. Name of manufacturer or fabricator
  - e. Name of supplier
  - f. Change Order numbers that affect value
  - g. Dollar value: Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
6. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
10. Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

**01 29 76    PROGRESS PAYMENT PROCEDURES****A.      Contractor Applications for Payment**

1. The Owner shall pay, and the Contractor shall receive, the prices bid on the Bid Form, or agreed upon, less any deduction for any uncompleted portion, based upon measurements made by the Engineer or as otherwise herein stipulated.



2. As defined under Section 00 72 00 General Conditions, the Contractor shall submit to the Owner, through the Engineer, a Request for Payment for Work performed.
  3. The quantities submitted by the Contractor shall be reviewed by the Engineer and revised by the Contractor as directed by the Engineer.
    - a. With each Request for Payment that incorporates the Engineer's comments, the Contractor shall submit the Application for Payment Form from Section 00 62 76, serving as the Contractor's declaration that the quantities performed for the application period are accurate or are consistent with the values on the Schedule of Values.
    - b. Draft Requests for Payment shall be submitted after the first day of the month following the month for which Work was performed and shall be for a period of approximately 30 days.
  4. Partial Waivers of Lien may be required from subcontractors and suppliers when they have notified the Owner or the Engineer in writing of a claim on the Project. Also to be included are any other periodic reports required (monthly payrolls, etc.).
  5. Whether the basis of payment under the Contract is Lump Sum or Unit prices, the procedure for Requests for Payment and Payment to Contractor are defined under Section 00 72 00 General Conditions.
  6. If the Request for Payment includes materials and equipment stored on the site, it shall be accompanied by invoices from the manufacturer or Supplier or such other information satisfactory to the Owner.
  7. Engineer's signature on the Request for Payment for each payment period shall constitute the Engineer's Certification for Payment to the Owner recommending payment to the Contractor.
- B. Payment for Materials Stored on Site
1. The cost of materials and/or equipment not incorporated in the Work, that meets the Contract requirements, may be paid when all of the following conditions are met:
    - a. Delivered materials/equipment are stored or stockpiled at the Project site or at a location approved by the Engineer;
    - b. The value of the delivered Materials to be used in one item of the Work is greater than \$3,000 and is not scheduled for placement in the Work within 30 days of delivery;
    - c. The invoiced amount shall be certified by the Supplier.
- C. Payment for Work Performed by Subcontractors and Suppliers
1. If the Supplier notifies the Owner or Engineer that payment authorized by the Owner, has not been received, and the Supplier claim remains unsatisfied for more than 30 days after the Owner's payment to the Contractor then the amount provided by payment to the Supplier shall be deducted from the next Contractor Application for Payment.
- D. Payment Withheld by Owner
1. The Owner may withhold any progress payment, in whole or in part, to the extent necessary to protect itself from loss on account of any of the following causes discovered after the submittal of the Contractor Application for Payment:

- a. Defective Work
  - b. Evidence indicating probable filing of claims by other parties against the Contractor
  - c. Failure of the Contractor to make payment to Subcontractors and/or material Suppliers
  - d. Damage to another Contractor's work
  - e. Failure to submit periodic reports required by the Contract Documents
- E. Payment for Rejected Work and Materials
1. The removal of rejected Work and materials and the re-execution of such Work in an acceptable state shall be done at the expense of the Contractor, and it shall pay the cost of replacing other contractors' work which is destroyed or damaged by the removal and subsequent replacement of the rejected Work or materials.
  2. The cost of removing rejected Work or materials by the Owner shall be paid by the Contractor within 30 days after written notice to pay is given by the Owner. If the Contractor does not pay the expenses of such removal, the Owner may sell the materials at auction or at private sale and shall pay to the Contractor the net proceeds therefrom after deducting all the cost and expenses incurred by the Owner for such removal. Should the sale price of such material be insufficient to pay the cost of removal, the difference shall be deducted from payments due the Contractor for Work done under this Contract.
- F. Payment for Uncorrected Work
1. Should the Engineer direct the Contractor not to correct Work that has been damaged or that has not been performed in accordance with the Contract Documents, an equitable deduction from the Contract Price shall be made to compensate the Owner for the uncorrected Work.
- G. Payment for Work by the Owner
1. The cost of the Work performed by the Owner in removing construction equipment, tools, supplies, and restoration and for correcting deficiencies shall be paid by the Contractor.
- H. Payment for Work Suspended by the Owner
1. If the Work or any part thereof shall be suspended by the Owner and abandoned by the Contractor, the Contractor will then be entitled to payment for all Work done on the portions so abandoned plus 15% of the value of the abandoned Work to compensate for overhead, plant expense, and profit on such abandoned Work.
- I. Payment for Work Done by Owner Following Termination of the Contract
1. Upon termination of the Contract by the Owner, no further payments shall be due to the Contractor until the Work is completed.
  2. If the unpaid balance of the Contract Amount shall exceed the cost of completing the Work (including all overhead cost), the excess shall be paid to the Contractor. If the cost of completing the Work shall exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The cost incurred by the Owner, as herein provided, and the damage incurred through the

Contractor's default, shall be certified by the Owner and approved by the Engineer.

J. Payment for Work Terminated by The Contractor

1. Upon suspension of the Work or termination of the Contract by the Contractor in accordance with the General Conditions, the Contractor shall recover payment from the Owner for the Work performed, including loss on plant and materials, and including normal profit.

K. Payment for Replacing Survey Control Points and Construction Stakes

1. Notwithstanding any liability which may be imposed by law on the Contractor for loss or disturbance of survey points, the Contractor shall pay the cost of replacing survey points lost or disturbed because of Work under the Contract. In addition to the replacement cost, the Contractor shall be liable for any other expenses, damages, or mistakes caused by such loss or disturbance. The cost of replacing U.S. government corners, property corners, benchmarks, monuments, and reference points (known collectively as survey control points) shall be the actual cost as certified by the Engineer.
2. The cost of replacing or relocating construction stakes shall not be based solely on the number of such stakes replaced but shall be based upon the number of occurrences in which the Engineer is required to replace or relocate lost or disturbed stakes. For each such occurrence, the cost shall be the actual cost to the Owner. The Engineer shall certify to the Owner in the final Certificate for Payment the actual cost for replacing all survey control points and/or construction stakes.
3. The total actual cost as certified by the Engineer shall be deducted from the earned amount due the Contractor for Work under the Contract.

L. Final Payment

1. In addition to the Section 00 62 76 Application for Payment Form submitted by the Contractor with previous Requests for Payment, the Contractor shall also submit a completed Section 00 65 19 Certificate of Completion Form with their final Request for Payment.
2. Final payment shall only take place following Substantial and Final Completion of the Project

END OF SECTION

**01 30 00 ADMINISTRATIVE REQUIREMENTS**

- M. The purpose of Section 01 30 00 Administrative Requirements is to provide administrative and procedural requirements for the management and coordination of Contractors, recording progress, processing submittals, and special project situations.
- N. Contractor shall coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- O. Contractor shall verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- P. Contractor shall coordinate space requirements and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- Q. In finished areas except as otherwise indicated, pipes, ducts, and wiring shall be concealed within the construction. Coordinate locations of fixtures and outlets with finish elements.
- R. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

**01 31 00 PROJECT MANAGEMENT AND COORDINATION**

- A. A minimum of one week in advance of beginning Work, the Contractor shall notify all public bodies and other owners of such facilities of the proposed location of its operations, advising them that their property may be affected and that such measures as they may deem necessary should be promptly taken to protect, adjust, remove and/or rebuild them.
- B. Prior to working in or connecting to existing sewers, Contractor shall provide notice to and request permission from the Owner.
- C. Contractor shall provide Owner a minimum of two weeks' notice of intended shutoffs to local residences and businesses. Contractor shall coordinate with Owner to deliver a shutoff notice to all affected residences and businesses before any water main is shut off for installation or relocation. Whenever an existing gate valve must be opened or closed, the Contractor shall notify the water department of the community having jurisdiction. All valves shall be operated only by the corresponding community having jurisdiction.
- D. It is the Contractor's responsibility to coordinate its operations and those of its subcontractors to avoid interference and delays in the areas of common construction activities.
- E. If at any time, Contractor's resources appear to the Engineer to be inefficient, inappropriate, or insufficient to achieve the required quality or rate of progress of the Work, the Engineer may direct the Contractor to increase the efficiency, change the character, or increase the number of personnel and equipment, and the Contractor must comply. Failure of the Engineer to give such a direction will in no way relieve the Contractor of its obligations to secure the required quality or rate of progress of Work.

**01 31 14 FACILITY SERVICES COORDINATION**

- A. Communicate with Owner's public works department to ensure efficient and orderly coordination of construction operations.

- B. Any forms required by the Owner to accurately record entry, access, and/or shutdown of Owner's assets shall be completed by the Contractor and submitted to the Engineer and Owner.

**01 31 16 MULTIPLE CONTRACT COORDINATION**

- A. Coordinate the Work of this Project with Work performed in nearby areas under separate Contracts.
- B. Contractor shall cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract.
- C. List of other Contracts
  - 1. NOT USED

**01 31 19 PROJECT MEETINGS**

- A. Engineer shall arrange meetings, prepare agenda with copies for participants, preside at meetings, record meeting notes, and distribute copies within five days to the Owner, participants, and those affected by decisions made.

**01 31 19.13 PRECONSTRUCTION MEETINGS**

- A. After receipt of the Notice of Award, the Owner, via the Engineer, shall schedule a pre-construction meeting. The Contractor shall attend the pre-construction meeting at the time and place arranged by the Owner, at which various utility companies, the Engineer, the designated inspection agencies, local municipal officials, governmental agency representatives and the Owner's Representatives shall be present to discuss the Project. Subcontractor(s) may be required to attend at the discretion of the Engineer.
- B. Contractor shall obtain all permits prior to the meeting and electronically submit each permit to the Engineer prior to Construction.
- C. The Contractor shall submit at the meeting, unless previously submitted, the construction schedule and a list of Subcontractors. Contractor shall be prepared to discuss Project staging and sequence at the pre-construction meeting.
- D. General Agenda
  - 1. Distribution of executed Contract Documents.
  - 2. Submission of list of Subcontractors, list of products, Schedule of Values (if applicable), and current progress schedule.
  - 3. Contractor shall deliver copies of all the required permits. No Work may begin until Contractor has paid for and received permits from the authorized agencies.
  - 4. Designation of personnel representing the parties in Contract and the Engineer.
  - 5. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 6. Scheduling.
  - 7. Scheduling activities of geotechnical Engineer.
  - 8. Use of premises by Owner and Contractor.
  - 9. Owner's requirements.
  - 10. Construction facilities and controls provided by Owner.
  - 11. Survey and construction layout.

12. Security and housekeeping procedures.
13. Procedures for testing.
14. Procedures for maintaining record documents.
15. Requirements for start-up of equipment.
16. Inspection and acceptance of equipment put into service during construction period.

**01 31 19.23 PROGRESS MEETINGS**

- A. Periodic progress meetings shall be conducted, as determined necessary by the Owner, during the life of the Contract. The Contractor's job superintendent shall attend these progress meetings; Subcontractor(s) and supplier(s) shall also attend these meetings as appropriate to agenda topics for each meeting.
- B. The purpose of these meetings shall be to update the construction schedule, discuss and resolve construction-related problems, and obtain and exchange Project-related information from the Owner and the Engineer.
- C. General Agenda
  1. Review previous meeting notes.
  2. Review of Work progress versus Work submitted or revised schedule.
  3. Field observations, problems, and decisions.
  4. Identification of problems which impede planned progress.
  5. Review of submittals schedule and status of submittals.
  6. Review of off-site fabrication and delivery schedules.
  7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Planned progress during succeeding Work period.
  10. Coordination of projected progress.
  11. Maintenance of quality and Work standards.
  12. Effect of proposed changes on progress schedule and coordination.
  13. Other business relating to Work.

**01 31 19.33 PREINSTALLATION MEETINGS**

- A. Contractor shall convene pre-installation conferences at Work sites prior to commencing new phases of the Work. Attendance is required from entities directly affecting or affected by Work.
- B. Contractor shall notify Engineer five working days in advance of meeting date.
- C. Contractor shall review conditions of installation, preparation and installation procedures, and coordination with related Work.
- D. Contractor shall prepare agenda, preside at conference, record meeting notes, and distribute electronic copies within five days after conference to Engineer and participants.

**01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION****01 32 13 SCHEDULING OF WORK**

- A. Contractor shall communicate with the Engineer's inspectors each day regarding the time and location of the following day's Work. The Contractor's return to site shall be communicated prior to arriving on site for that day.
- B. The Contractor shall give the Owner, Engineer, and the affected permitting agencies written notice at least 48 hours in advance (Monday through Friday only) of the following
  - 1. Any Work to be performed.
  - 2. Changes in the Contractor's work force, which will increase or decrease the number of construction technicians required on the Project (final determination made by Engineer).
  - 3. Manufacture and delivery of material and beginning of construction for the purpose of proper and timely inspection.

**01 32 16 CONSTRUCTION PROGRESS SCHEDULE**

- A. Examples of acceptable Progress Schedule formats:
  - 1. Gantt charts/bar charts showing activities of the schedule are listed along the vertical axis with bars extending along a horizontal time axis. Each activity is given a starting and finishing date with overlapping bars indicating simultaneous activities.
  - 2. Milestone charts showing significant events in the life of the Project such as installation of equipment, completion of phases, file and data processing, starting of the new system, and substantial and final completion.
  - 3. Activity-On-Node (AON) network diagrams showing the logical relationships between activities, dependencies, early and late start and finish dates, critical path, and controlling activities
  - 4. Activity-On-Arrow (AOA) network diagrams using finish-to-start precedence showing significant activities bounded by nodes.
- B. Contractor shall submit initial Construction Schedule at or prior to the Pre-Construction Meeting with revised schedules submitted with each Application for Payment. Schedules shall indicate the estimated percentage of completion for each item of Work and the submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.
- C. Contractor shall coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of Subcontractors.
- D. Contractor shall coordinate Contractor's Construction Schedule with the Schedule of Values (if applicable), list of Subcontracts, submittals schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from parties involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- E. Schedule shall extend from the date of Commencement of the Work to the date of Final Completion and shall include milestones for Substantial Completion and Restoration.

- F. Schedule shall include constraints and Work restrictions indicated in the Contract Documents and how the sequence of the Work is affected.
- G. Schedule shall indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
1. Subcontract awards
  2. Submittals
  3. Purchases
  4. Mockups
  5. Fabrication
  6. Sample testing
  7. Deliveries
  8. Installation
  9. Tests and inspections
  10. Adjusting
  11. Curing
  12. Startup and placement into final use and operation
- H. Contractor shall identify each major area of construction for each major portion of the Work and shall indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
1. Structural completion
  2. Permanent space enclosure
  3. Completion of mechanical installation
  4. Completion of electrical installation
  5. Substantial Completion
  6. Final Completion
- I. At monthly intervals, or at the request of the Engineer, the Contractor shall update the construction schedule to reflect actual construction progress and activities. The Contractor shall issue the schedule electronically and at each regularly scheduled progress meeting.
- J. If, in the opinion of the Owner, the Contractor falls behind the Progress Schedule, the Contractor shall take steps as may be necessary to improve their progress and to submit for approval such supplementary schedule or schedules in short form as may be deemed necessary to demonstrate the manner in which the agreed rate of progress will be regained, all without additional cost to the Owner.
- K. Failure of the Contractor to comply with the requirements of the Owner under this provision shall be grounds for determination by the Owner that the Contractor is not prosecuting the work with such diligence as will ensure completion within the time specified. Upon such determination, the Owner may terminate the Contractor's right to proceed with the work, or any separate part thereof, in accordance with the appropriate section of the Contract Documents.

**01 32 23 SURVEY AND LAYOUT DATA**

- A. All construction survey Work provided by the Contractor shall be performed under the supervision and direction of a Land Surveyor licensed to practice in the state where the Work is being performed. All stakes provided shall be appropriate for the conditions such as any of the following



1. 5/8" iron rebar
  2. 1" x 2" x 18" hardwood hubs/Lath
  3. Concrete nails
- B. All stakes shall be clearly marked in the field describing their position with respect to the Work. Contractor shall provide the appropriate staking material.
- C. The Owner shall provide the following staking one time only at the Contractor's written request, which will include location and elevations for the following (as applicable):
1. Clearing
    - a. One stake every 50 feet to 100 feet on the limits of clearing.
  2. Sanitary Sewer
    - a. Open Cut Construction
      - 1) One offset stake every 100 feet parallel to sewer.
      - 2) One centerline stake and one offset stake for structures.
    - b. Directional Drill Construction
      - 1) One centerline stake every 100 feet on drill path.
      - 2) One centerline stake and one offset stake for structures.
  3. Pump Station
    - a. One centerline stake and one offset stake for each structure associated with the pump station.
    - b. The access driveway will be staked once.
  4. Water Main:
    - a. Open Cut Construction
      - 1) One offset stake every 50 feet parallel to water main.
      - 2) One centerline stake and one offset stake for structures and hydrants.
    - b. Directional Drill Construction
      - 1) One centerline stake every 50 feet on drill path.
      - 2) One centerline stake and one offset stake for structures and hydrants.
- D. Contractor will pay for any re-staking or modifications to the staking as described above. A Change Order will be used to modify the Contract if re-staking or modification is requested.
- E. For Contractor-provided staking, the Engineer will provide control lines and benchmark staking. All other lines and levels necessary to the location and construction of the Work under the Contract shall be established by the Owner.
- F. The Contractor shall carefully compare all elevations given on the Contract Drawings with the information shown on the construction survey stakes and shall call the Owner's attention to any discrepancies before proceeding with the Work. When stakes are to be set, the Owner and Engineer must each be given 48 hours' notice that stakes will be required.
- G. The Contractor shall preserve benchmarks, property corners, United States Government corners, established reference points, and stakes, and in case of willful or careless destruction, it shall be charged with the resulting expense and

shall be responsible for delays and errors caused by their unnecessary loss or disturbance.

- H. Wherever in the Contract Documents there are given survey stations, bearings, or similar survey designations for the location of structures, or portions of structures, it is understood that they are approximate only, and no change of such designations caused by the developments of construction shall be made the basis of claims for payment other than provided for in the Contract.

**01 32 33 PHOTOGRAPHIC DOCUMENTATION**

- A. NOT USED

**01 32 36 VIDEO MONITORING AND DOCUMENTATION**

- A. If listed as an item on the Bid Form, Contractor shall furnish all labor, materials, and equipment necessary for a complete color audio-video record of the existing surface features for the entire Project to accurately document the pre-construction conditions within the proposed construction's zone of influence.
- B. Should no item exist on the Bid Form, furnishing of such an audio-video recording shall be at the sole discretion of the Contractor.
- C. The purpose is to document the existence or nonexistence of any faults, fractures, or defects to surface features including but not limited to all roadways, pavements, curbs, driveways, sidewalks, culverts, headwalls, retaining walls, buildings, landscaping, trees, shrubbery, and fences.
- D. Contractor shall discuss with Engineer and outline the coverage expected for the Project, prior to the start of the video documentation and prior to placement of equipment and materials on the jobsite
- E. The Owner shall have the authority to reject all or any portion of recording not conforming to specifications as well as to designate what areas may be omitted or added for audio-video coverage.
- F. Submittal Format and Quality
1. A set of Construction Drawings marked with the number and points of beginning and ending of each tape roll, and with arrows indicating direction of travel, shall be submitted to the Engineer.
  2. Video shall be produced with current, high quality, high definition (HD) camcorders, submitted via portable hard drive, thumb drive, or electronically via a file hosting service.
    - a. With 1/4-inch, 1/3-inch or 1/2-inch charged coupled device imaging systems.
    - b. With optical stabilization; electronic stabilization is not acceptable.
    - c. With 20x minimum optical magnification.
    - d. Capable of producing ATSC 1080 lines of resolution/60 fields/30 frames per second.
    - e. Capable of 3-luxillumination minimum.
  3. Video shall reproduce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of picture imperfection.
  4. Audio shall reproduce the commentary of the camera operator with proper volume and clarity, free from distortion and background noise. Furthermore, it shall assist in maintenance of viewer orientation and in identification, clarification, or objective description of the surface features being shown in the video portion of the recording.

5. At all times, video shall display the time, date, and location of recording (street, address, easement name, etc.)
  6. Files and folders shall be labeled with appropriate Project information and be able to be cross referenced with runsheets and Contract Drawings. Labeling shall include:
    - a. Project title.
    - b. Location of Project.
    - c. Month and year of coverage.
    - d. Stationing
  7. Runsheet logs shall accurately catalog the contents of each video and include:
    - a. Street name, easement, or address.
    - b. Sheet number or numbers relative to the line entry of a particular area of coverage.
    - c. Real time code indexing for each segment of the Project indicating hours, minutes, and seconds to cross reference with playback equipment to locate specific points of interest on the Project.
    - d. Direction of travel for each specific segment.
    - e. Viewing side for each Project segment.
    - f. Starting point for each Project segment.
    - g. Ending point for each Project segment.
    - h. General Project information such as Project title, Owner, and date.
  8. The engineering stationing numbers must be continuous, accurate, and correspond to the Project stationing and must include the standard engineering symbols. For example, 14+18. This transparent information must appear in the lower half of the viewing screen.
- G. For accessible areas, coverage shall consist of a single, continuous recording which begins at one end of a particular construction area and continues to the other end of that construction area, recorded on both sides of the right-of-way, easement, or street
- H. For non-accessible areas, coverage shall consist of an organized, interrelated sequence of recordings at various positions along the proposed construction area. Such coverage shall be obtained by walking or special conveyance approved by the Engineer.
- I. Houses and buildings shall be identified visually by house number, when visible, in such a manner that structures of the proposed system, i.e., manholes on a sewer system, and gate wells and hydrants on a water system can be located by reference. In all instances, however, location shall be identified by audio or visual means at intervals not to exceed 100 linear feet in the general direction of travel.
- J. The rate of speed in the general direction of travel of the conveyance used during taping shall not exceed the following rates, categorized as follows:
1. High density areas: 30 feet/min
    - a. Hard surface curbs, drives and sidewalks
    - b. 50-foot lots
    - c. Very few empty lots

2. Medium density areas: 60 feet/min
    - a. Gravel roads
    - b. Hard and soft surface drives
    - c. No sidewalks
    - d. Culverts and headwalls
    - e. 100-foot lots
    - f. Few empty lots
  3. Low density areas: 90 feet/min
    - a. Gravel roads
    - b. Small fields or woods
    - c. Occasional houses
  4. Very low density areas: 120 feet/min
    - a. Gravel roads
    - b. Large fields
    - c. Sparse number of houses
- K. All recording shall be done during times of good visibility. No recording shall be done during periods of visible precipitation, or when more than 10% of the ground area is covered with snow, unless otherwise authorized by the Owner.
- L. Vehicles
1. When conventional wheeled vehicles are used, camera shall be mounted securely to produce steady viewing with lens not less than 8 feet above the ground of the area being viewed, or at a level to facilitate best perspective and line of site when using conventional wheeled vehicles.
  2. Vehicles shall be plainly marked with company name and telephone number with caution signs, flags, and strobes to affect a safe and hazard free operation
- M. Contractor shall obtain permission of property owner before entering any private property. If refused entry, Contractor shall notify Engineer and wait until permission is obtained before entering the property.

**01 33 00 SUBMITTAL PROCEDURES**

- A. Contractor shall electronically submit to the Engineer full information indicating the source of materials and names of major suppliers which the Contractor proposes to use. This information shall be complete to the extent that the Engineer may judge if the proposed materials and supplies will meet the Contract requirements. Prior to the Engineer's approval, any work done by the Contractor is at its own risk.
- B. Contractor shall submit to the Owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records, and other data as the Owner may request, concerning Work performed or to be performed under this Contract.
- C. The Engineer's approval of information, supplied by the Contractor, shall in no way release the Contractor from its responsibility for the proper installation and performance of any material, equipment or arrangement, or from its liability to replace same should it prove defective.
- D. Contractor shall refer to the Specifications throughout Divisions 02 through 49 regarding specific submittal requirements for each area of work.

**01 33 13 CERTIFICATES**

- A. Contractor shall secure and submit to the Engineer two copies of materials certificates. The Contractor shall furnish certification that all materials and manufactured products meet or exceed the requirements set forth in the Contract Documents.
- B. Source of the certification shall be as approved by the Engineer. No materials or manufactured products shall be incorporated in the Work prior to the Engineer's receipt of such certification. Manufacturer's pipe certificates are to be furnished at the time pipe is delivered to the Project site.

**01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES**

- A. After verifying all field measurements, the Contractor shall electronically submit to the Engineer one reproducible PDF of all shop drawings, product data, and samples, which shall have been checked and approved by the Contractor. Hard copies of submissions will not be accepted unless a complete electronic copy has been previously submitted.
- B. Within 15 days after the Effective Date of Agreement, submit complete list of major products proposed for use with name of manufacturer, trade name, and model number of each product.
- C. The Contractor shall be responsible for submissions at the proper time so as to prevent delays in fabrication and delivery of materials. A minimum of 21 calendar days shall be allowed for checking and processing shop drawings. Should another agency be involved in the review process, the timely review shall be extended accordingly.
- D. All submissions shall include a transmittal with the Contractor's letterhead referenced to the appropriate specification section, paragraph number, and/or sheet number clearly indicating the location, service, and function of each particular item in addition to general information such as the Owner's name, Project name, and date. Submissions shall provide space for Contractor and Engineer review stamps.
- E. Submittal shall include the Contractor's signature along with a statement certifying that the review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- F. Shop Drawings and Product Data
  - 1. The data shown on the submittals will be complete with respect to the dimensions, design criteria, materials of construction, etc. to enable the Engineer to review the information as required. All details shall show clearly the relations of the various parts to the main members and lines of the component, and, where correct fabrication of the Work depends upon field measurements, such measurements shall be made and noted on the drawings before being submitted.
  - 2. Each submittal shall be marked to identify applicable products, models, options, and other data. Manufacturers' standard data shall also be supplemented to provide information unique to this Project.
  - 3. The Contractor shall revise submittals to conform with Engineer's comments thereon and electronically re-submit the corrected shop drawings, identifying all changes made since the previous submittal. No Work requiring a shop drawing shall commence until the submission has been reviewed by the Engineer and found to be in compliance as set forth above.

4. The Contractor shall coordinate each submittal with the requirements of the Contract Documents and shall submit Shop Drawings for major equipment items in one package to permit checking complete installation details in all involved trades. The Engineer's review of a separate item does not constitute approval of an assembly in which the item functions.
5. It shall be the responsibility of the Contractor to ensure that items furnished fit the space available. Contractor shall make necessary field measurements to ascertain space requirements, including those for connections, and shall order such sizes and shapes of equipment that the final installation shall suit the true intent and meaning of the Drawings and Specifications. Where equipment requiring different arrangement of connections from those shown is approved, it shall be the responsibility of the Contractor to install the equipment to operate properly, and in harmony with the intent of the Drawings and Specifications, and to make all changes in the Work required by the different arrangement of connections.
6. At the time of each submission, the Contractor shall, in writing on such drawing, call the Engineer's attention to any deviation that the submittal may have from the requirements of the Contract Documents. Any authorization for such deviation shall be by appropriate Contract Modification only.
7. The Engineer will review such submittals with reasonable promptness. Comments made on the shop drawings during such review shall not relieve the Contractor from compliance with requirements of the Contract Documents. The review is only for review of general compliance with the design concept of the Project and general compliance with the information given in the Contract Documents. Notwithstanding such review, the Contractor shall be responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating its Work with that of all other trades, and performing the Work in a safe and satisfactory manner. In addition, such review shall not relieve the Contractor from the responsibility for any error or omission in the shop drawings.
8. The Contractor shall revise the submittal to conform with Engineer's comments thereon and electronically re-submit the corrected shop drawings. No Work requiring a shop drawing shall commence until the submission has been reviewed by the Engineer and found to be in compliance as set forth above.

G. Samples

1. Contractor shall furnish samples of material as may be required for examination and test. All materials for tests shall be taken according to methods provided in the Specifications. The Contractor shall furnish such assistance and facilities as the Engineer may require for collecting, storing, and forwarding the samples. The entire cost of taking the samples and delivering them to the testing authority shall be paid for by the Contractor at no cost to the Owner. The physical cost of testing by the testing authority shall be paid for by the Owner at no cost to the Contractor unless otherwise indicated in the Supplementary Conditions.

2. Failure of samples to meet Contract requirements shall be sufficient cause for refusal to consider any further samples of the same brand from the manufacturer whose equipment has failed.
3. Any of the materials or equipment delivered on the site or in place may be taken by the Owner or Engineer for testing. Materials or equipment which fail to meet Contract requirements will automatically void previous approvals of the items tested. The Contractor shall replace all such disapproved materials or equipment at its own cost.
4. Tests will be made by such methods and in such numbers as the Engineer determines to be adequate and equitable. When materials are required to conform to Federal, NCPI, AWWA, or ASTM specifications, and such specifications are accepted as establishing the technical qualities and testing methods, they shall not necessarily govern the number of tests required to be made. The Engineer may require laboratory tests on samples submitted or may approve materials on the basis of data submitted in certificates with the samples.
5. If the tests of the samples submitted indicate that the proposed material will not conform to the Contract requirements, the Engineer will notify the Contractor that the proposed material is unacceptable and rejected and will furnish the Contractor the basic reasons for such rejection. However, the Engineer will not be required to furnish the Contractor with copies of all the test data and results.
6. All materials rejected by the Owner or its Representative shall be indelibly marked and immediately removed from the site of the Work.

**01 34 00 RESERVED FOR FUTURE****01 35 00 SPECIAL PROCEDURES****01 35 23 OWNER SAFETY REQUIREMENTS**

- A. All necessary safety requirements shall be observed during construction in full accordance with MIOSHA/OSHA standards.
- B. Contractor shall provide safe pedestrian walkways at all times.
- C. Prior to construction, the Contractor shall submit to the Engineer a copy of its safety program for confined space entry in accordance with current Occupational Safety and Health Administration (OSHA) and the local State OSHA requirements. Prior to entry into any confined space, the Contractor shall submit to the Engineer a copy of its "daily" entry permit in accordance with current OSHA and the local State OSHA requirements.
- D. Manholes left open shall have barricades surrounding the manhole and yellow caution tape attached to the barricades. Any open excavations shall have orange snow fencing surrounding the excavation.
- E. Sheet and brace excavations as necessary to ensure safety of the workmen, protection of the Work or protection of adjoining structures. The Contractor will be paid no extra compensation for sheeting or bracing.
- F. Railroad Crossing
  1. All Work within a railroad right-of-way shall be in accordance with the requirements of the railroad company having jurisdiction over the right-of-way. The Contractor shall reimburse the railroad company for any necessary expense to which it is put incidental

to the construction in such right-of-way, including the cost of inspectors, flagmen, underground markers, etc.

2. Seventy-two hours' notice, exclusive of Saturdays, Sundays, and holidays, shall be given to the railroad superintendent before any work is performed within a railroad right-of-way.

G. Emergency Calls

1. Contractor shall furnish to the Engineer a list, including telephone numbers, of its employees designated to receive emergency calls outside of the regular working hours. These employees shall be authorized and equipped to take immediate action to remedy any hazardous situation in connection with the Work which is reported to them by the Engineer or Police Dept.
2. Contractor shall have a documented plan to respond to any associated basement flooding that may occur. Contractor shall have a cleaning crew on call to sanitize basements and the like which have flooded due to the Contractor's operations.
3. If damage has occurred due to a flooded basement or the like due to the Contractor's operations, the Contractor shall take all necessary means to immediately satisfy the resident and shall incur all costs associated with such.

H. Ventilation Safety

1. Means and equipment shall be provided as may be required for detection of and protection against gas encountered in the Work and to safeguard the workers employed. Such means and equipment shall comply with all applicable requirements of the United States Bureau of Mines and the U.S. Department of Labor.
2. In any shaft, tunnel, sewer, or excavation, a positive and approved means shall be provided for testing the air quantitatively for carbon monoxide, nitrogen dioxide, flammable or toxic gases, dusts, mists, fumes, and oxygen deficiency. If gas above the allowable limits is encountered, the workers shall be ordered to withdraw from the shaft, tunnel, sewer, or excavation. Ventilating equipment of sufficient capacity and suitable type to dilute the gas adequately and quickly shall be promptly installed and operated. Gas in gas pockets shall be removed by bleeders to the main exhaust line of the ventilating system until such time that the gas pocket is sealed off. The workers shall not return to Work until the shaft, tunnel, sewer, or excavation has been thoroughly examined for harmful or dangerous gas and oxygen deficiency and found to be within the allowable limits. Suitable signs shall be conspicuously placed at hazardous locations prohibiting smoking and the use of open flame.
3. No open flame or other open light shall be used in the tunnels, shafts, sewers, or gas producing excavations to which entry is necessary. Should an open flame be necessary for Work such as cutting existing steel and the like, it shall be used only after a satisfactory gas test and as limited by the authorization of the Engineer.
4. Such regulations shall be rigidly enforced by the Contractor, and it shall promptly discharge any employee who violates such safety requirements.



**01 36 00    RESERVED FOR FUTURE**

**01 37 00    RESERVED FOR FUTURE**

**01 38 00    RESERVED FOR FUTURE**

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END OF SECTION

**01 40 00 QUALITY REQUIREMENTS**

- A. The purpose of Section 01 40 00 Quality Requirements is to discuss regulatory requirements, reference standards, and issues of quality.
- B. Additionally, this Section will discuss the administrative and procedural requirements for proactive activities to assure the quality of construction before and during the execution of the Work (quality assurance) as well as for reactive activities to evaluate completed activities and elements for conformance with the requirements (quality control)

**01 41 00 REGULATORY REQUIREMENTS****01 41 26 PERMIT REQUIREMENTS**

- A. All permits required shall be obtained by the Contractor. All permit fees, bonds, and insurance required by the issuing agencies shall be provided by the Contractor and must be kept current. The Contractor is responsible for all other fees, inspection costs, etc., and shall adhere to all requirements set forth in said permits.
- B. Engineer has anticipated the need for permits from the agencies listed in Section 00 31 46 Permits. Contractor shall obtain the permits and pay costs and post bonds as required.
- C. Contractor shall adhere to all permitting requirements set forth by each agency having jurisdiction.

**01 42 00 REFERENCES****01 42 13 ABBREVIATIONS AND ACRONYMS**

- A. AASHTO American Association of State Highway Transportation Officials
- B. ACI American Concrete Institute
- C. ANSI American National Standards Institute
- D. ASCE American Society of Civil Engineers
- E. ASME American Society of Mechanical Engineers
- F. ASTM American Society for Testing and Materials
- G. AWS American Welding Society
- H. AWWA American Water Works Association
- I. CPAM Concrete Pipe Association of Michigan
- J. EGLE Department of Environment, Great Lakes, and Energy
- K. MDOT Michigan Department of Transportation
- L. MMUTCD Michigan Manual on Uniform Traffic Control Devices
- M. NCPI National Clay Pipe Institute
- N. NASSCO National Association of Sewer Service Companies

**01 42 19 REFERENCE STANDARDS**

- A. Whenever reference is made to specifications other than those contained herein, said specifications, in effect at the time of bidding, shall apply and be as binding as if fully repeated herein.
- B. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective

Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

- C. In interpreting any specification of standard referred to, terms such as "Purchaser," "Owner," and the like shall be understood to mean the Owner, as defined in the General Conditions. Terms such as "Manufacturer," "Supplier," and the like shall mean the Contractor.
- D. A copy of each specification or standard referred to is on file in the Engineer's office. However, it is assumed that a qualified Contractor experienced in the type of Work involved will have access to the specifications or standards referred to.

#### **01 43 00 QUALITY ASSURANCE**

- A. Contractor shall provide quality assurance for proactive activities to assure the quality of construction before and during the execution of the Work. These assurances may require field services provided by manufacturer's representatives. Quality assurance by the Engineer shall supplement that of the Contractor.
- B. Contractor shall comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Contractor shall perform Work by persons qualified to produce workmanship of specified quality.
- D. Inspection by Owner/Engineer
  - 1. The Engineer and its representatives shall always have access to the Work. In addition, authorized representatives, and agents of any participating federal or state agency, shall be permitted to inspect all Work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The Contractor shall provide proper facilities for such access and observation of the Work and for any inspection or testing thereof.
  - 2. The Owner and Engineer shall provide inspection of the Project up to the Final Completion date determined in the Notice to Proceed at no additional cost to the Contractor. Should the Contractor exceed such date, the Contractor shall reimburse the Owner for the cost of the inspection of Work performed after said date at the rate for liquidated damages shown in the Agreement and, if applicable, the rate per inspection Crew Day.
  - 3. If any Work is covered without prior inspection or contrary to the instructions of the Engineer, it must, if requested by the Engineer, be uncovered for its observation, and replaced at the Contractor's expense.
  - 4. Construction and related operations generally requiring full time inspection by the Engineer are generally defined as, but not limited to, the following
    - a. Checking for required permits.
    - b. Inspecting the plant operations of manufacturers, including batch plants, and/or Suppliers of materials to be incorporated in the Work.
    - c. Checking for certification and Engineer approval of all materials and equipment (including compliance with approved Shop Drawings) delivered to the job site.
    - d. Attending preconstruction meeting and construction progress meetings.
    - e. Reviewing Contractor's payment requests.

- f. Reviewing Field Orders and Change Orders.
  - g. Witnessing all final inspection of Work.
  - h. Inspecting restoration of conditions existing prior to construction, including drives, sidewalks, fences, landscaping, cleanup, etc.
  - i. Assisting with resolution of construction complaints, including the viewing of audiovisual record of construction area.
  - j. Preparing Punch Lists.
  - k. Changing plans to as-built conditions.
  - l. Inspecting the construction of appurtenances – such Work can be observed by the same individual performing the inspection for the primary construction (main or tunneling, etc.) provided that:
    - 1) They are located within 1,000 feet of the primary construction,
    - 2) The Contractor cooperates to the extent that the inspector is informed of the construction of appurtenances,
    - 3) No Work is covered prior to inspection.
  - m. Restoring conditions to that which existed prior to construction including but not limited to
    - 1) Drives
    - 2) Sidewalks
    - 3) Fences
    - 4) Landscaping
    - 5) Final cleanup
- E. Inspection by Permit Agencies
- 1. Parts of the Work requiring special permits from agencies such as road commissions, drain commissions, railroads, and other local, state, and federal agencies may be performed by that agency.
  - 2. The cost of inspection of special permit work by agencies other than the Owner shall be at the Contractor's expense.

**01 43 13 MANUFACTURER QUALIFICATIONS**

- A. When specified on the Contract Drawings, product or material manufacturers shall provide qualified personnel to observe site conditions, product installation, quality of workmanship, startup of equipment, test, adjust, and balance of equipment, and to initiate instructions when necessary. Submit qualifications of the observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer.
- B. Observer shall report observations and site decisions, or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to Engineer for review.

**01 43 16 SUPPLIER QUALIFICATIONS**

- A. The provisions for manufacturers under Section 01 43 13 also apply to suppliers.

**01 43 19 FABRICATOR QUALIFICATIONS**

- A. The provisions for manufacturers under Section 01 43 13 also apply to fabricators.

**01 43 23 INSTALLER QUALIFICATIONS**

- A. The provisions for manufacturers under Section 01 43 13 also apply to installers.

**01 43 36 FIELD SAMPLES**

- A. The Contractor shall furnish to the Engineer at its office and for its approval when requested, samples of all materials and finishes to be used in the execution of the Work herein described. All materials furnished and finishes applied shall be fully equal to the approved samples.

**01 44 00 RESERVED FOR FUTURE****01 45 00 QUALITY CONTROL**

- A. Contractor shall provide quality control for reactive activities to evaluate completed activities and elements for conformance with the Contract Documents. These controls shall also include any needed correction of the defective construction. Quality control by the Engineer shall supplement that of the Contractor.

**01 45 16 FIELD QUALITY CONTROL PROCEDURES**

- A. If required, the method of soil compaction shall be in accordance with Dry Density and Moisture Density relationships as determined by ASTM D1557 and AASHTO T-180. Density in place shall be in accordance with ASTM D2922 (Nuclear) or ASTM D2167 (Rubber Balloon).

**01 45 16.13 CONTRACTOR QUALITY CONTROL**

- A. Contractor shall ensure that the quality of installed products is acceptable while performing the Work.

**01 45 29 TESTING LABORATORY SERVICES**

- A. All materials and equipment used in the construction of the Project shall be subject to inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents. Material tests and inspection may be made by the Engineer or its authorized representative during manufacture and/or upon delivery. All material rejected after delivery shall be removed from the job site within 5 days after notification of rejection. The Contractor shall pay all costs for such removal and replacement with acceptable material, including all handling, loading, and transportation charges.
- B. The Owner will provide, at its expense, the testing services required by the Contract Documents unless indicated otherwise in these documents. The Contractor shall pay for all re-testing should the initial testing not pass.
- C. The independent testing laboratory will perform inspections, tests, and other services specified in individual specification Sections and as required by the Engineer.
- D. Reports will be submitted by the independent testing laboratory to the Engineer, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- E. Cooperate with independent testing laboratory; furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.
- F. Notify Engineer and independent testing laboratory 48 hours prior to expected time for operations requiring services.
- G. Coordinate with independent testing laboratory and pay for additional samples and tests required for Contractor's use.
- H. Retesting required because of non-conformance to specified requirements shall be performed by the same independent testing laboratory on instructions by the Engineer.

- I. If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Owner, the Contractor will give the Engineer timely notice of readiness. The Contractor shall then furnish the Engineer the required certificates of inspection, testing, or approval.
- J. Inspections, tests, or approvals by the Engineer or others shall not relieve the Contractor from its obligations to perform the Work in accordance with the requirements of the Contract Documents.
- K. Approval of any material or equipment shall be only for the characteristics of uses named in such approval and shall not constitute a change or modification of the Contract or a waiver of the Owner's right to demand full compliance with the Drawings and Specifications.
- L. When materials or equipment have been approved, no change or substitution will be permitted.

**01 46 00 RESERVED FOR FUTURE**

**01 47 00 RESERVED FOR FUTURE**

**01 48 00 RESERVED FOR FUTURE**

**01 49 00 RESERVED FOR FUTURE**

END OF SECTION

**01 50 00 TEMPORARY FACILITIES AND CONTROLS**

- A. The purpose of Section 01 50 00 Temporary Facilities and Controls is to detail the requirements for installation, maintenance, and removal of temporary utilities, controls, facilities, and construction aids during construction.

**01 51 00 TEMPORARY UTILITIES**

- A. Contractor shall make its own arrangements for temporary electricity, gas, water, and sewer services for use during the construction of the Work and shall pay for all connections, extensions, and services.
- B. Provide and maintain incandescent lighting for construction operations to achieve a minimum lighting level of 2 watts per square foot. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Provide and pay for heat devices and heat as required to maintain specified conditions for construction operations.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or glass.
- E. Provide, maintain, and pay for suitable quality water service required. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.
- F. See Section 01 18 00 Project Utility Sources.

**01 52 00 CONSTRUCTION FACILITIES****01 52 13 FIELD OFFICES AND SHEDS**

- A. At its discretion, the Contractor shall provide and maintain, at its own expense, a field office on the site of the Project providing electric lights, necessary heat, and a telephone
- B. Contractor shall provide three chairs, an Engineer's table and stool, and a rack for storing plans. The office shall be provided with a lock.
- C. The field office shall not be removed by the Contractor until the completion of the Work, at which time it shall become the property of the Contractor.
- D. Cost of telephone service including reasonable toll calls in connection with the Project shall be borne by the Contractor.

**01 52 16 FIRST AID FACILITIES**

- A. Contractor shall always provide a satisfactory first aid kit at the job site. Emergency phone numbers for police, doctors, and emergency vehicles shall also be kept in the first aid kit.
- B. First Aid kit shall be kept organized and accessible and contain the essential supplies to treat the most common injuries (cuts, scrapes, swelling, sprains, strains, etc.). All contents shall be latex-free and contain a first aid guide.
- C. Supply shall be restocked as needed.

**01 52 19 SANITARY FACILITIES**

- A. Contractor shall provide necessary sanitary convenience in the form of on-site toilet facilities for the use of its employees, as well as the Engineer and Owner.
- B. Facilities shall be properly secluded from public observation, shall be maintained in sanitary condition by the Contractor, and their use shall be strictly enforced.
- C. Contractor shall prohibit the committing of a nuisance within the Work or upon lands about the Work. Any employee found violating these provisions shall be discharged and not again employed without the written consent of the Engineer.

- D. Contractor shall furnish a convenient supply of soap and fresh drinking water from a safe source. Facilities shall be maintained in a sanitary condition, frequently cleaned, disinfected, and in compliance with all minimum requirements of the Health Department or other public agency having jurisdiction.
- E. Any contaminated soil or material shall be removed and replaced with fresh, clean soil, and the site left in a clean, sanitary condition.

**01 53 00 TEMPORARY CONSTRUCTION**

- A. Dewatering and Maintenance of Drainage
  - 1. Provide adequate dewatering facilities for removal and disposal of water from drains, sewers, trenches, or other excavations which may interfere with the execution of the Work. Provide for dewatering bulkhead sewer sections as required by the Engineer.
  - 2. Should the ground in the working area contain an excessive amount of water to prevent proper construction of the Work, notify the Engineer and request a meeting between the Owner, Contractor, and Engineer. After a review of all current soil borings, groundwater data and observations, submit to the Engineer, a complete dewatering program, including the total cost. The Engineer will complete its review and make a recommendation, in writing, within 5 days. If accepted, a Change Order will be issued to cover the dewatering costs.
  - 3. Dewatering is defined as requiring the use of deep wells and/or well points. Use of a trench box and/or pumping from the trench is considered normal construction and is incidental to unit prices bid.
  - 4. Execute the dewatering so there is no damage or interference with public or private property.
  - 5. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
  - 6. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
  - 7. To protect against flotation of below grade structures, notify Engineer before terminating dewatering operations.

**01 54 00 CONSTRUCTION AIDS**

- A. Bulkheads shall be built or removed at locations shown on the Drawings. Other complete or partial restrictions or temporary dams may be built as an aid to the construction operations when approved as to location, type, and size by the Engineer. Such bulkheads or dams shall be removed prior to the completion of the Work, or when directed by the Engineer.
- B. A brick bulkhead, with the natural soil removed, is not designed to withstand air pressures. If air is being used in a tunnel approaching an existing brick bulkhead, the pressure shall be reduced or entirely removed. If air pressure is being used in the tunnel or in the adjacent section, then a reinforced concrete bulkhead, designed to withstand 25 psi air pressure or as specified by the Engineer, shall be constructed in place of a brick bulkhead.
- C. The cost associated with the construction of restrictions shall be included in the cost of the Project unless otherwise specified in the Bid Form.
- D. Should the Contractor desire to place or remove any restrictions (such as bulkheads, curtain walls, dams, sandbags, or flumes) or to leave temporary openings in any sewer wall, approval shall first be obtained from the Engineer. Any temporary obstruction so placed shall be promptly removed when no longer needed. Any temporary opening made in an existing sewer structure shall,



likewise, be promptly closed when no longer needed. Such closure shall be made as approved by the Engineer to provide structural and hydraulic conditions equivalent to those originally existing.

- E. Should flooding or damage to construction Work result from storm conditions, the Contractor will not be entitled to any extra compensation for such loss as it may sustain, or for the extra Work that may result there from.

## **01 55 00 VEHICULAR ACCESS AND PARKING**

### **01 55 16 HAUL ROUTES**

- A. Contractor shall work with the appropriate government agencies in determining truck routes and shall have such routes approved by same before the routes can be used.
- B. 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 such routes are used by the Contractor.
- C. Contractor shall keep clean all streets used in its operations. Trucks hauling excavated materials, cement, sand, stone, or other loose materials from or to the site, shall be tight so that no spilling will occur. Before trucks start away from the site, their loads shall be carefully trimmed to prevent spillage.
- D. The above requirements likewise apply to subcontractors, suppliers, and the like making deliveries to the site, and the Contractor will be held responsible for compliance by its suppliers.

### **01 55 19 TEMPORARY PARKING AREAS**

- A. The Contractor shall maintain temporary surfacing of parking areas disturbed during construction in a satisfactory and usable condition until completion and acceptance of final restoration of such surfacing.

### **01 55 23 TEMPORARY ROADS**

- A. The Contractor shall, where necessary, furnish and install 21AA aggregate maintenance gravel to maintain access to local resident drives and temporary access roads. It shall also maintain temporary streets, alleys and sidewalks disturbed during construction in a satisfactory and usable condition until completion and acceptance of final restoration of such surfacing. Unless indicated on the Bid Form, the cost of this Work is included in the cost of the Project.
- B. Temporary access roads and drives shall serve as access for local public or private use or as access to the construction site both for the Contractor's equipment and for the delivery or removal of materials.
- C. The temporary access roads and drives shall be removed by the Contractor when directed by the Engineer. The areas shall be restored as near the condition found as is practical and shall be compatible with the adjacent undisturbed areas.
- D. The Contractor shall also maintain temporary surfacing of drives, streets, alleys, and sidewalks disturbed during construction in a satisfactory and usable condition until completion and acceptance of final restoration of such surfacing.

### **01 55 26 TRAFFIC CONTROL**

- A. All Work shall be carried on 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 maintained for public or private use until such time as the permanent repair is complete.
- B. The Contractor shall maintain reasonable access to all residences and businesses.
- C. 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. If such permission is granted, the Contractor shall notify the local police and fire departments, the local Board of Education, and any local private schools, erect "Street Closed" signs, and designate a suitable detour.

- D. Safety precautions shall be observed at all times. The Contractor shall maintain traffic control devices and provide and maintain proper lights and barricades. In addition, if required by the authority having jurisdiction, the Contractor shall provide flagmen for the directing of traffic.
- E. During the progress of the Work, the Contractor shall accommodate vehicular and foot traffic, except as otherwise specified herein, and shall provide access to fire hydrants and to water and gas valves.
- F. The Contractor shall furnish, erect, maintain and remove all traffic control devices, including lights, required to protect the construction area and the public.
- G. All traffic control measures shall be in full accordance with the latest edition of the MMUTCD.
- H. Detour signs and arrow boards shall be placed, as field required, to direct traffic around areas of construction. Work activities on major streets will require proper lane closures, per the MMUTCD.
- I. All lights, signs, barricades, drums, grabber cones and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and, where within highway rights-of-way, as required by the authority having jurisdiction thereover.
- J. Facilities shall be provided along the route adjacent to the Work in progress as necessary to maintain both local pedestrian and vehicular traffic that is dependent solely upon such route for access to adjacent property. Closing of any street to through traffic, even if just temporary, may be done, if at all, only as specifically authorized by the governing agencies. Unobstructed access to fire hydrants and water and gas valves shall always be provided.
- K. Where any street is to be partially blocked, temporary roadways, sidewalks, bridges, crossings, barricades, lights, signs, and the like shall be provided and maintained as the Engineer considers necessary to accommodate and protect the public. Should the Contractor fail to promptly provide or neglect to maintain the required temporary facilities or be dilatory in carrying out specific instructions of the Engineer, those having authority may, with or without notice to the Contractor, take such remedial measures deemed necessary and charge the Contractor with any costs incurred therefor. Any such action, however, shall in no way serve to release the Contractor from its general or particular liability for the safety of the traveling public or the protection of property.
- L. Where street obstruction is authorized, the Contractor shall inform the Fire Department in advance of such obstruction, so that plans may be prepared for servicing the area. The Contractor shall, likewise, notify the authorities having jurisdiction over the streets and roads at least 1 week prior to the contemplated obstruction so that regulatory traffic controls may be arranged.
- M. In the event the Contractor is authorized to close the road to all traffic, it will be the responsibility of the Contractor to notify the local police department, the governing agency, local fire department, local school board, and residents on the road affected by the road closure. Furthermore, it will be the Contractor's responsibility to provide any temporary facilities required by the local governing authorities due to the temporary closing of the road, and to obtain permits prior to closing any road.
- N. Contractor shall always maintain one lane of traffic on all segments of the Project.
- O. Any flag control necessary to maintain traffic shall be considered incidental to the Project.

- P. If the Contractor does not provide an adequate number of barricades to protect the public, the Owner with or without notice, will provide and/or install barricades and deduct a reasonable fee from the Contract for material and service rendered above.
- Q. All traffic signs or traffic lights disturbed or damaged during the construction of the Project shall be replaced in their original condition. Any traffic sign or light temporarily disturbed or removed during construction shall be replaced with temporary signs or flagmen during construction in the immediate area and then permanently replaced immediately after construction in that area is essentially finished. The cost of this replacement shall be included in the cost of the Project and no separate payment will be made therefore.
- R. Contractor shall furnish Engineer with the name and telephone number of the barricading company. In case of emergency, the barricading company will install signs or barricades as directed by the Engineer or Owner, at no cost to the Owner.

**01 55 29 STAGING AREAS**

- A. The Contractor will be allowed to stockpile material and equipment within the existing rights-of-way and construction limits as shown on the Contract Drawings as necessary for the Work, but in no case shall the Contractor obstruct traveled road, drives, or entrances (whether for parking, storage of material, etc.) without the approval of the Engineer. Driveways and entrances serving the premises shall be clear and available to Owner, Owner's employees, and private property Owners at all times
- B. Contractor shall schedule deliveries to minimize space and time requirements for storage of materials and equipment on Site. Areas for Contractor's trailers, equipment, and material storage, and Contractor's employee parking shall be as indicated on Drawings or agreed by Owner prior to the start of construction.
- C. The Contractor may, at its own expense, obtain space on private property for storage of equipment and material with the written permission of the property owner.
- D. At all times, keep the working and storage area as neat and orderly as possible. The Engineer will have the right to require any equipment or material to be moved or arranged in a manner deemed necessary for public convenience, safety, or elimination of a nuisance.
- E. The Contractor shall be held responsible for all materials until incorporated into the Work and accepted. It shall be held responsible for, and repair, any damage done by reason of the storage of tools, equipment, and materials.

**01 56 00 TEMPORARY BARRIERS AND ENCLOSURES**

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage due to construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

**01 56 16 TEMPORARY DUST BARRIERS**

- A. All haul roads, detour roads, public roads, private roads, driveways, and parking lots used by the Contractor must be maintained in a dust free condition during the life of this Contract.
- B. 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 agency having jurisdiction over the roadway or driveway.
- C. Such dust control materials shall be applied as often as is necessary to control the dust.

- D. Roads shall be swept at least daily.
- E. The use of road oils and waste oils to control dust is prohibited.
- F. Should the Contractor be negligent of its duties in providing dust control, the Owner may take the necessary steps to perform such Work and will charge the Contractor for all costs.

**01 56 26 TEMPORARY FENCING**

- A. As directed by the Engineer, the Contractor shall furnish, erect, and maintain any temporary construction fencing required during the performance of the Work.
- B. Temporary fences shall consist of properly installed and braced snow fence with a minimum height of 4 feet.
- C. Temporary fences shall be installed and removed at no additional cost to Owner.
- D. Locate temporary fencing at a sufficient distance from the work area and equipment so that construction activities may proceed without removing any fencing.
- E. Temporary fencing shall remain in place until the Work is complete and the site is secure.
- F. Remove temporary fencing and restore surroundings to original condition.
- G. Temporary fencing for work area may need to be installed and removed depending on phasing of Project. This Work shall be completed at no additional cost to Owner.

**01 56 39 TEMPORARY TREE AND PLANT PROTECTION**

- A. The Contractor shall protect and preserve all trees and other plants encountered during the Work by provide temporary fencing, barricades or guards unless the Drawings specifically indicate the necessity for their removal. Trees which are to remain and must be protected are tagged and indicated on the Drawings.
- B. Trim and protect trees which are indicated to remain but interfere with or are in close proximity to new construction, as herein specified. A qualified arborist shall remove branches from trees which are to remain and shall recommend procedures to compensate for loss of roots (if any). Tree surgeon shall perform initial pruning of branches using a Waterproof, antiseptic, elastic that is free of kerosene, coal tar, creosote and other substances harmful to plants.
- C. Wherever necessary for the preservation of trees, the Engineer shall have the right to direct the Contractor to tunnel under such trees. When called for on the Drawings, the Contractor shall remove the trees completely, including the stump, and the main roots.
- D. The Contractor shall be responsible for the damage or destruction of property of any character resulting from neglect, misconduct, or non-execution of the Work, or caused by defective work or the use of unsatisfactory materials.
- E. A qualified arborist shall certify that trees indicated to remain have been protected during construction in accordance with recognized standards of the industry as well as that, where damage did occur, trees were promptly and properly treated. Indicate which damaged trees (if any) are incapable of retaining full growth potential and are recommended to be replaced.
- F. Protection of trees shall be incidental to the construction of the Work unless a separate item for this purpose is listed on the Bid Form. In wooded areas, trees shall not be removed unless marked for removal. The Engineer shall be notified by the Contractor when it intends to be on-site for clearing areas marked for removal. All trees, stumps, brush, etc., removed because of the Contractor's construction shall be removed off-site.
- G. The Contractor shall not injure or destroy trees, shrubs, flowers, or lawns nor remove or cut them without authorization by the Owner. All trees, shrubs, flowers,

or lawns except those ordered to be removed shall be adequately protected by boxes/protection fence or otherwise by the Contractor. No excavated material shall be placed so as to injure such trees, shrubs, flowers, or lawns. Trees, shrubs, flowers, or lawns destroyed by negligence of the Contractor or its employees shall be replaced by Contractor with new stock, or with other stock satisfactory to the Owner, at the proper season, and at the sole expense of the Contractor.

H. Root Protection

1. Do not store construction materials, debris or excavated material within drip line (outer perimeter of branches). Do not permit vehicles within drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.
2. Protect tree root systems from damage due to noxious materials in solution caused by run-off or spillage during mixing and placement of construction materials, or drainage from stored materials.
3. Protect root systems from flooding, erosion or excessive wetting resulting from dewatering operations.
4. Do not allow fires under or adjacent to trees or other plants which are to remain.
5. Remove branches from trees which are to remain, if required, to clear new construction.
6. Where directed by Owners Representative, extend pruning operation to restore natural shape to the entire tree.
7. Cut branches and roots, if required, with sharp pruning instruments; do not break or chop.
8. Paint cuts over one-half inch in size with tree pruning compound.

I. Excavation Around Trees

1. Excavate within drip line of trees only where indicated.
2. Where trenching for utilities is required within drip line, tunnel under or around roots by hand digging. Do not cut main lateral roots or tap roots; cut smaller roots which interfere with installation of new Work. Cut roots with sharp pruning instruments; do not break or chop.
3. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems.
4. Provide sheeting at excavations if required. Use narrow tine spading forks and comb soil to expose roots.
5. Relocate roots in backfill areas wherever possible. If large, main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If encountered immediately adjacent to location of new construction and relocation is not practical, cut roots approximately three (3") inch back from new construction.
6. Do not allow exposed roots to dry out before permanent backfill is placed; provide temporary earth cover, or pack with peat moss and wrap with burlap. Water and maintain in moist condition and temporarily support and protect from damage until permanently relocated and covered with earth.
7. Prune branches to balance loss to root system caused by damage or cutting of root system.

## J. Grading and Filling Around Trees

1. Maintain existing grade within drip line of trees, unless otherwise indicated.
2. Lowering Grades
  - a. Where existing grade is above new finish grade shown around trees, carefully hand excavate within drip line to new finish grade. Cut roots exposed by excavation or provide permanent protections as recommended by arborist
  - b. Compensate for loss of roots and prune branches to stimulate root growth.
3. Provide subsequent maintenance during the Contract period as recommended by arborist.
4. Provide Owner with typed instructions for recommended long-range maintenance procedures following completion of construction operations.
5. Raising Grades
  - a. Minor Fills: Where existing grade is 6 inches or less below elevation of finish grade shown, use a topsoil fill material. Place in single layer and do not compact; hand grade to required finish elevations.
  - b. Moderate Fills: Where existing grade is more than 6 inches, but less than 12 inches, below finish grade elevation, place a layer of drainage fill on existing grade prior to placing topsoil. Carefully place against trunk of tree approximately 2 inches above finish grade elevation and extend not less than 18 inches from tree trunk on all sides. For balance of area within drip line perimeter, place drainage fill to an elevation 6 inches below grade and complete fill with a layer of topsoil to finish grade elevation. Do not compact stone, gravel, or topsoil layers; hand grade to required elevations.

## K. Repair and Replacement of Trees

1. Repair trees damaged by construction operations, in manner acceptable to Owner's Representative. Make repairs promptly after damage occurs to prevent progressive deterioration of damaged trees.
2. Remove and replace dead and damaged trees which are determined by arborist to be incapable of restoration to normal growth pattern.
  - a. If trees over 6 inches in caliper measurement (taken 12 inches above grade) are required to be replaced, provide new trees of 6 inches caliper size, and of the species selected by the Owner's Representative.
3. Remove all tree stumps and dispose of off Owner's property. Tree stumps may not be burned on-site.

**01 57 00 TEMPORARY CONTROLS**

- A. The Contractor shall assume full responsibility for the protection of all buildings, utilities, or other structures and their foundations, as well as other improvements, such as pavement, etc., that might be encountered during, or affected by, its operations.
- B. Should settlement or lateral movement of adjacent structures or surface features occur, such conditions shall be rectified at the Contractor's expense. If damage to any structures, utilities, or other improvements occurs by reason of the Contractor's

operations, even though special precautions have been employed, the Contractor shall be entirely responsible for such damage.

- C. All fences, mailboxes, and other physical features within the work area under this Contract shall be maintained and, if damaged, repaired or replaced in a workmanlike manner with materials satisfactory to the property owner affected and the Engineer, and approved by the local postmaster.
- D. If temporary mailboxes are needed, the Contractor shall construct these boxes in a manner satisfactory to the property owner affected and the Engineer, and approved by the local postmaster, at no additional cost to the Owner.
- E. Contractor shall maintain access to the work area for garbage pickup, bus service, and mail service if applicable. If access is not possible, the Contractor shall, prior to closure of site, coordinate with the appropriate service to provide alternate routes or alternate methods of service to residents/owners at its own expense and at no additional cost to the Project.

**01 57 13 TEMPORARY EROSION AND SEDIMENT CONTROL**

- A. All erosion and sedimentation control Work shall conform to the current standards and specifications of agency having jurisdiction. This Project shall be constructed in compliance with Part 91 of Act 451 of 1994, as amended.
- B. Any erosion and sedimentation from Work on this site shall be contained within the work area and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- C. The Contractor shall apply temporary erosion and sedimentation control measures as directed on these plans and whenever otherwise required by the Work. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been accomplished.
- D. Soil erosion control practices will be established in early stages of construction by the Contractor. Sedimentation control practices will be applied as a perimeter defense against any transporting of dirt out of the work area.
- E. The Contractor shall be responsible for ensuring compliance with all applicable NPDES regulations, including inspection, restoration, and record-keeping requirements.
- F. Sediment Control Fencing
  - 1. Sediment control fencing shall be inspected immediately after each rainfall and several times during prolonged storm events.
  - 2. If the fence is sagging, or soil has reached one half of the height of the fabric, the soil behind the fabric shall be removed and disposed of in a stable area of the site.
  - 3. If water is seeping under the fence, or the fabric is decomposed or otherwise ineffective, the fence shall be removed and properly reinstalled as indicated on the plans.
  - 4. Sediment control fencing indicated on this plan is not intended to show the exact location of the fence. The Contractor shall be responsible for the installation and maintenance required to contain sediment.
- G. Mud Mats
  - 1. Mud mat entrances shall be inspected immediately after each storm rainfall. The surrounding roads shall also be inspected at this time for evidence that mud is being tracked off the site.

2. Maintenance shall include the installation of additional layers of stone when the original stone becomes covered with mud.
  3. All sediment dropped or tracked onto public rights-of-way shall be removed immediately by sweeping and scraping (as may be required by the Engineer).
- H. Sediment Inlet Filters
1. Sediment inlet filters shall be inspected immediately after each rainfall and several times during prolonged storm events.
  2. The filters shall be cleaned periodically throughout construction to avoid clogging. Filters that cannot be maintained by cleaning shall be replaced.
- I. Construction activities, including installation of pipe and associated valves, structures, back filling, surface restoration, and removal of excess excavated material, shall be accomplished in one continuous operation.
- J. All dewatering shall be accomplished in a manner that will not contribute to deposition of sediment in road ditches or open water.
- K. Erosion Control Sequence
1. Install mud mats, silt fence, and inlet filters at all existing locations as shown and as required to achieve on-site containment.
  2. Install storm sewer and all associated storm water improvements as shown on the Construction Drawings. Immediately install inlet filters at all catch basins.
  3. Rough grade the Project work area as needed.
  4. Install sanitary sewer as shown on the Construction Drawings.
  5. Install water main as shown on the Construction Drawings.
  6. Install other utilities (gas, electric, phone, cable, etc.) And/or all needed conduits and sleeves.
  7. Install pavement backfill and seed and mulch all disturbed areas.
  8. Clear all accumulated silt and remove all erosion control devices.
  9. Install landscaping materials as indicated on the Construction Drawings and re-seed, fertilize, and mulch all disturbed areas.
- L. Erosion and Sediment Control Maintenance
1. The Contractor is responsible for on-going maintenance of all soil erosion controls as indicated by the plans.
  2. The Contractor shall sweep the existing streets surrounding the Project site once a week, or as directed by the Engineer or inspector. Street scraping shall be performed in conjunction with this sweeping on an as needed basis.
  3. Sediment control fencing indicated on this plan is not intended to show the exact location of the fence. The Contractor shall be responsible for the installation and maintenance required to contain sediment.
  4. Any erosion or washouts of topsoil, seed, or mulch which occurs during or after construction due to rain events or flooding shall be re-worked and restored by the Contractor at its expense until permanent stabilization is established and the project has been accepted by the Owner.



5. If for any reason permanent stabilization cannot be provided within 15 days of the completion of any pipe laying operations, temporary stabilization shall be provided at all disturbed areas. Temporary stabilization shall furthermore be provided during the non-growing season (October 1 through April 20) for all areas to be seeded.
6. Temporary stabilization shall consist of either small grain straw or grass hay spread at the rate of 1.5 to 2 tons per acre, or mulch blankets, which shall be anchored in place to prevent displacement from wind and rain. Temporary stabilization shall be repaired as often as necessary, as determined by the agency with jurisdiction.

M. Plants

1. The Contractor shall preserve natural vegetation as much as possible.
2. Protect all existing trees, including their branches and roots, from damage due to this Work unless specifically identified for removal.
3. Vegetation stabilization of all disturbed areas shall be established within 15 days of completion of final grading.
4. Pavement and/or vegetation shall not be stripped from an area unless construction activities are to commence in that area within the next three days.

- N. Should a dedicated soil erosion and sedimentation control plan not be part of the Contract Documents, it is still the responsibility of the Contractor to meet all local and state ordinances. A regular inspection program and a thorough maintenance program shall be developed and implemented by the Contractor to insure the effectiveness of the erosion and sedimentation control practices.

**01 57 23 TEMPORARY STORM WATER POLLUTION CONTROL**

- A. The Contractor shall maintain in continuous and effective service all drains, sewers, and water courses encountered or interfered with during the progress of the Work.
- B. If it becomes necessary to temporarily divert or obstruct the flow of any such water course, sewer, or drain, written consent must first be obtained from the Owner and Engineer, and then the Contractor shall assume full responsibility for any damages incurred therefrom.
- C. Adequate pumping and drainage facilities shall be provided, and all water from whatever sources entering the Work during any stage of construction shall be promptly removed and disposed of. All pumping and drainage shall be done without damage to property or structures and without interference with the rights of the public, owners of private property, pedestrians, vehicular traffic, or the Work of other Contractors. Dewatering shall be done in such a manner that the soil under or adjacent to existing structures shall not be disturbed, removed, or displaced.
- D. The overloading or obstructing of existing drainage facilities will not be permitted and the Contractor shall be solely responsible for damage caused by its operations.
- E. Both dry weather sewage flow and storm flows in all existing sewers, ditches, streams, rivers, and drains, which may in any way be affected by the new construction, shall be adequately maintained by Contractor. Such methods shall be used in maintaining flows as will prevent raising the levels of the sewage in upstream sewers to the extent to cause basement flooding or other damage. All gutters, ditches, catch basins, and other surface water inlets and drains shall be kept clear for proper surface drainage. Surface water inlets and drains that

interfere with the Contractor's operations shall be temporarily altered or relocated by the Contractor as approved by the Engineer.

- F. The Contractor shall take all necessary precautions to ensure that no raw sewage is bypassed to a receiving stream as a result of its operations.
- G. All alterations, relocation, or use of any existing facilities shall be approved by the proper governing agency and shall be restored to the original location, and to as good a condition as found; all as approved by the governing agency.

**01 58 00 PROJECT IDENTIFICATION**

**01 58 13 TEMPORARY PROJECT SIGNAGE**

- A. When shown on the Contract Drawings, the Contractor shall provide and erect (and maintain in good condition throughout the life of the Project) a Project sign in a location selected by the Engineer.
- B. The sign shall be constructed of  $\frac{3}{4}$ " exterior plywood (or similar material), 4' x 8' in size, with white lettering on a green background.
- C. The sign shall be mounted on suitable supports and positioned with its lower edge a minimum of 2' above ground level. The information to be shown on the sign, and the format to be used, will be provided by the Owner after award of Contract.

**01 59 00 RESERVED FOR FUTURE**

END OF SECTION

**01 60 00 PRODUCT REQUIREMENTS**

- A. The purpose of Section 01 60 00 Product Requirements is to detail administrative and procedural requirements for the selection of products, product delivery, product storage, product handling, manufacturers' standard warranties on products, special warranties, product substitutions, and comparable products.
- B. See Section 01 25 00 Substitution Procedures for product substitution procedures.
- C. See Section 01 33 23 Shop Drawings, Product Data, and Samples for product submittal procedures.
- D. Products are defined as items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named products are defined as items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
  - 2. New products are defined as items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable products are defined items as that are demonstrated and approved through the submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
  - 4. Basis-of-design products are defined as items in which a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers. Product specifications are provided by the manufacturers.
- E. Contractor shall prevent damage, deterioration, and loss, including theft, and shall comply with manufacturer's written instructions.

**01 61 00 COMMON PRODUCT REQUIREMENTS**

- A. Comply fully with manufacturers' instructions including each step-in sequence. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- B. Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
- C. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
- D. Provide standard products of types that have been produced and used successfully in similar situations on other projects unless custom products or nonstandard options are specified.
- E. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

- F. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

**01 62 00 PRODUCT OPTIONS**

- A. The product selection procedure shall depend on the product(s), manufacturer(s), source(s), and/or sample(s) named on Drawings and Divisions 02-49 Specifications.
1. Single Product and Manufacturer
    - a. Provide the named product that complies with requirements.
    - b. Should the Contract Documents indicate sizes, profiles, and dimensional requirements based on a specific product or system, provide the specified product or system.
    - c. Where Contract Documents name a Basis-of-Design product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named.
  2. Single Manufacturer or Source: Provide a product by the named manufacturer or source that complies with requirements.
  3. List of Names of Both Products and Manufacturers: Provide one of the products listed that complies with requirements or, if none are available, an unnamed product and/or manufacturer
  4. List of Manufacturers: Provide a product by one of the manufacturers listed that complies with requirements.
  5. Visual Matching Specification: Select a product that complies with requirements and matches Engineer's sample.
  6. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
    - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Engineer will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
    - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Engineer will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- B. For products specified only by reference standards, Contractor shall provide manufacturer, trade name, model or catalog designation and reference standards.
- C. Compatibility of options shall be strictly adhered to by the Contractor. If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

**01 63 00 RESERVED FOR FUTURE****01 64 00 OWNER-FURNISHED PRODUCTS**

- A. The Owner, at its sole discretion, reserves the right to furnish certain products for the Project.

**01 65 00 PRODUCT DELIVERY REQUIREMENTS**

- A. Contractor shall schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
- B. Contractor shall coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- C. Contractor shall deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- D. Contractor shall inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- E. Engineer shall inspect materials at the point of manufacture or upon delivery as the Engineer may decide.

**01 66 00 PRODUCT STORAGE AND HANDLING REQUIREMENTS**

- A. Contractor shall store products to allow for inspection and measurement of quantity or counting of unit. Contractor shall be responsible for locating a storage area, if desired, at no additional cost to the Owner. The Owner/Engineer will require a copy of all agreements made between Contractor and property owner prior to the onset of construction. Property must be properly zoned.
- B. Contractor shall store materials in a manner that will not endanger Project structure.
- C. Contractor shall store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
- D. Contractor shall store cementitious products and materials on elevated platforms.
- E. Contractor shall store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
- F. Contractor shall comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- G. Contractor shall protect stored products from damage and liquids from freezing.
- H. Material improperly stored shall not be included in estimates for partial payment, or if already included, shall be deducted for subsequent estimates.
- I. Private property shall not be used for storage purposes without written permission of the Owner or renter.

**01 67 00 RESERVED FOR FUTURE****01 68 00 RESERVED FOR FUTURE****01 69 00 RESERVED FOR FUTURE**

END OF SECTION

**01 70 00 EXECUTION AND CLOSEOUT**

- A. The purpose of Section 01 70 00 Execution and Closeout Requirements is to detail the general procedures and acceptable conditions for installation, execution, cleanliness, protection of installed construction, completion, and demonstration.

**01 71 00 EXAMINATION AND PREPARATION****01 71 13 MOBILIZATION**

- A. Mobilization is the responsibility of the Contractor and shall include all machinery, tools, materials, equipment, transportation, and labor required to accomplish the Work specified herein.

**01 72 00 RESERVED FOR FUTURE****01 73 00 EXECUTION****01 73 29 CUTTING AND PATCHING**

- A. The Contractor shall perform all cutting, fitting, or patching of its work that may be required to properly join parts and fit it to receive or be received by Work of other contractors shown upon, or reasonably implied by, the Contract Documents for the completed Work as the Engineer may direct. Cutting and patching may be necessary to
1. Fit the several parts together to integrate with other Work
  2. Uncover Work to install or correct ill-timed Work
  3. Remove and replace defective and non-conforming Work
  4. Remove samples of installed Work for testing
  5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- B. Contractor shall employ skilled and experienced installers to perform cutting and patching.
- C. As specified in product Sections, Contractor shall match existing products and Work for patching and extending Work.
- D. Contractor shall remove, cut and patch Work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition. Openings in exterior surfaces shall be closed to protect existing Work from weather and extremes of temperature and humidity.
- E. Contractor shall submit written requests in advance of cutting or altering elements which affect
1. Structural integrity of element
  2. Integrity of weather-exposed or moisture-resistant elements
  3. Efficiency, maintenance, or safety of element
  4. Visual qualities of sight-exposed elements
- F. Work shall be executed by methods which will avoid damage to other Work and provide proper surfaces to receive patching and finishing. Refinish visible existing surfaces to remain in renovated rooms and spaces to specified condition for each material with a neat transition to adjacent finishes.
- G. Rigid materials shall be cut using masonry saw or core drill.
- H. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work shall match existing adjacent Work in texture and appearance.

1. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
  2. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Engineer review.
- I. Contractor shall fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
  - J. Contractor shall maintain integrity of wall, ceiling, or floor construction and completely seal voids.
  - K. Surfaces shall be refinished to match adjacent finishes. Continuous surfaces shall be refinished to the nearest intersection; for an assembly, the entire unit shall be refinished.
  - L. Contractor shall patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

**01 74 00 CLEANING AND WASTE MANAGEMENT****01 74 13 PROGRESS CLEANING**

- A. Contractor shall keep work area and affected properties in a neat and orderly condition. Waste materials, rubbish, and debris shall not be allowed to accumulate. Contractor's equipment, temporary buildings, scaffolding and excess materials shall be promptly removed as they become no longer needed for the progress of the Work. At the completion of construction, the Work area shall be left raked clean.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum-clean interior areas prior to start of surface finishing, then continue cleaning to eliminate dust.
- D. Remove waste materials, debris, and rubbish from site periodically and dispose off-site.
- E. If, in the opinion of the Engineer, cleanliness of the Project is not progressing in a reasonable manner, it shall have the right to direct the Contractor to proceed with such Work, or any portion thereof, immediately. In the event the Contractor does not then immediately proceed with this Work, the Engineer may order any or all other operations of the Contractor, under this Contract, to cease until the cleanliness of the Project is proceeding in an acceptable manner.

**01 74 16 SITE MAINTENANCE**

- A. Material or equipment delivered on the streets shall be neatly and compactly placed along the sides of the roadway in such a manner to cause the least inconvenience to the property owners and to the public.
- B. The Contractor shall erect a material storage shed or sheds necessary as required for the proper storage of materials subject to damage by weathering.
- C. All haul roads, detour roads, gravel roads, and driveways 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 agency having jurisdiction over the roadway. Such dust control materials shall be applied as often as necessary to control the dust. The use of road oils and waste oil to control dust is not permitted.
- D. All excess trench excavation shall be uniformly spread out of the road right-of-way or removed off-site as directed by the Engineer.

- E. Maintenance and of road surfaces, structures and trench backfill shall be commenced and completed within a reasonable length of time after construction. If, in the opinion of the Engineer, Work has not progressed in a reasonable manner, Engineer shall have the right to direct the Contractor to proceed with the Work or any portion thereof immediately. In the event that the Contractor does not proceed with the Work immediately, as directed by the Engineer, the Engineer may order any or all other operations of the Contractor under this Contract, to cease until the maintenance and restoration of road surfaces, structures and trench backfill is proceeding in an acceptable manner.

**01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**

- A. Excavated material, where suitable, shall be used in backfilling around drains and other structures. All materials in excess of the quantity required for backfilling and all materials unsuitable for backfilling shall be hauled away by the Contractor.
- B. It shall be the responsibility of the Contractor to obtain such spoil sites as may be required. The Contractor shall leave such spoil sites in a neat and generally level condition satisfactory to the Engineer.

**01 74 23 FINAL CLEANING**

- A. Upon reaching Substantial Completion and before final payment is made, Contractor shall proceed with final cleanup and restoration of the Project area disturbed (including spill areas). Contractor shall go over the entire area and refill any places that may have settled. It shall then regrade and put in shape all backfilled trenches, all fills it may have made from excess excavated materials, and all other areas that may have been disturbed through its operations.
- B. The Contractor shall be responsible for the restoration of any disturbed or damaged areas accessed during the performance of Work. All items, including but not limited to trees, plants, irrigation systems, lights, pavement, any other landscaping items, curbing, walks, paving, gravel, and street road surfaces shall be protected. Restoration shall be of material and quality to match or exceed existing. Paved areas shall be restored to the same cross-section. Damage to lawn areas shall be restored by fine grading and by placing 3" topsoil, seed, and mulch, or to previous condition, whichever is stricter.
- C. Final cleanup and restoration shall consist of final grading, placing of topsoil, seeding, and mulching, and/or sodding of all disturbed areas of the Project under the requirements of the 2020 MDOT Specification for Construction.
1. Minimum seeding requirement shall be MDOT Turf Seed Mixture. Where the Contractor has disturbed lawn area, it shall provide not less than 3 inches of topsoil approved by the Engineer, grade, seed, and fertilize the area with not less than 5 pounds of seed and 10 pounds of fertilizer per 1000 square foot of area. Seed shall be. Seeding and fertilizer shall be done in an approved manner. Methods of application and covering must have prior approval by the Engineer.
  2. All seeded areas shall be immediately covered with mulch. Mulch shall be loose enough to allow sunlight to penetrate and air to circulate slowly, but thick enough to shade the ground, reduce the rate of evaporation and reduce wind or water erosion. The Contractor shall maintain the mulch until a root system is established.
  3. Mulch shall be straw or other organic material approved by the Engineer. The mulch shall be held in place by an adhesive material approved by the Engineer.
  4. The Contractor may restore area disturbed by its operations with sod instead of seed, with the approval of the Engineer. Sod shall



be placed on a prepared bed of suitable soil. On slopes steeper than 1V:3H, the sod shall be pegged with wooden pegs or wire stakes driven flush with the surface of the sod. Sod placed by the Contractor shall match existing lawn and shall be watered immediately after placement and at least two times thereafter at 5-day intervals.

5. If any special landscaped area is disturbed, because of the operations of the Contractor, it shall be reasonably restored to its original condition by the Contractor. Seeding, as may be required by road permits, shall be done in accordance with requirement of governing body having jurisdiction.
  6. The Contractor shall re-work any areas where the sod or seed does not produce a satisfactory growth.
- D. Final cleanup and restoration shall further consist of replacement of concrete and asphalt pavement crossings. Where a special detail is not shown on the plans or specifications, and the governing authority has no jurisdiction over the restoration of the concrete or asphalt pavements, the following shall then apply:
1. Concrete pavement replacement shall be at least the thickness of existing slab and have a minimum 18 inches bearing on undisturbed ground on each side of the trench excavation. The existing slab shall be saw-cut to provide the concrete replacement width required; however, if a saw-cut is closer than 3 feet from a parallel joint, the existing slab shall be removed and replaced to that joint.
  2. The concrete replacement shall be reinforced in a manner equal to the existing slab; however, if the existing slab is not reinforced, the replacement concrete shall be reinforced in accordance with Department of Roads standards. A temporary cold patch shall be used to surface the area where the concrete has been removed until the concrete pavement can be replaced. The Contractor shall maintain this temporary cold patch until it is removed for completion of Work.
  3. Asphalt surfaces shall be replaced to sawed joints as directed by the Engineer. A temporary cold patch shall be used to surface the area where the asphalt has been removed until the asphalt pavement can be replaced. The Contractor shall maintain this temporary cold patch until it is removed for completion of Work.
- E. If seasonal conditions prevent final cleaning and restoration, the Contractor shall proceed with temporary stabilization of the disturbed area. Temporary stabilization shall consist of rough grading the disturbed area to a condition ready to receive topsoil and seeding and mulching the disturbed area. Temporary stabilization materials shall be removed and disposed of, and final cleanup and restoration shall be completed no later than 60 days after seasonal conditions allow performance of the required Work.
- F. For restoration of locations where buried manholes are found, the Contractor shall be responsible for restoring all areas disturbed by its equipment and operation to equal or better condition than what was encountered upon initial arrival.

#### **01 75 00 STARTING AND ADJUSTING**

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Engineer seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.

- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are completed and tested.
- F. Execute start-up under supervision of responsible Contractor's personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up and to supervise placing equipment or system in operation.
- H. Submit a written report indicating that the equipment or system has been properly installed and is functioning correctly.

**01 76 00 PROTECTING INSTALLED CONSTRUCTION**

- A. Contractor acknowledges finished and unfinished portions of the Work are considered an attractive nuisance. As such, the Contractor shall arrange for all necessary precautions to protect the Work from vandalism, damage, and the like.
- B. Protect installed Work where specified in Divisions 02-49.
- C. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- D. Prohibit traffic or storage upon pump station slabs. If traffic or activity is necessary, obtain Engineer's approval prior to commencing Work.
- E. Prohibit traffic from landscaped areas.

**01 77 00 CLOSEOUT PROCEDURES**

- A. Work shall be considered Substantially Complete when the Project is sufficiently complete in accordance with the Contract Documents such that the Owner can utilize the Work for its intended use. Specifically, the proposed sewer is tested and approved for use and all pavement is restored.
- B. Before Work shall be considered to have reached Final Completion, the Contractor shall have completed all items of Work under this Contract, removed all debris and waste materials from the work areas, removed temporary controls such as traffic devices and soil erosion measures, and repaired and restored any damaged areas.

**01 77 13 PRELIMINARY CLOSEOUT REVIEWS**

- A. The Engineer, at its discretion, will walk the site and/or review the completed Work with Contractor to determine if the Work is eligible for Substantial Completion, discussing any items needing restoration or other corrections.
- B. All appropriate safety precautions shall be taken immediately prior to the start of any inspection.
- C. Discussions will form the basis of any necessary punch list to be issued following the closeout review site walk.
- D. If the results of the site walk meet the criteria for Substantial Completion, the Engineer will issue a Certificate of Substantial Completion.
- E. While awaiting the Engineer's submittal of the final punch list to the Contractor (Section 01 78 13), the Contractor shall complete the items discussed during the closeout review site walk.

**01 78 00 CLOSEOUT SUBMITTALS**

- A. When, in the opinion of the Engineer, Work has reached Substantial Completion, the Contractor shall submit to the Owner, through the Engineer, the following items for review

1. A signed Application for Payment Form (Section 00 62 76) with the Contractor's Final Request for Payment
  2. A signed Certificate of Completion Form (Section 00 65 19)
  3. Final and Unconditional Waiver of Liens and Claims from all Suppliers and Subcontractors indicating that all debts for labor, materials, and equipment incurred in connection with this Contract have been paid in full
  4. Consent from Surety Company
- B. Letters of Release may be required approving final payment to the Contractor from all agencies concerned with the Work, including the department of transportation, county road commissions, the office of public works, municipalities, electric, gas, telephone, and other utilities, and railroad companies. The Contractor shall allow sufficient time after submittal of the above data for verification.

**01 78 13 COMPLETION AND CORRECTION LIST**

- A. Following the closeout review site walk, the Engineer shall review all Work and submittals for compliance with the Contract requirements and release a final punch list of deficiencies for correction by the Contractor. Contractor shall address the items discussed during the preliminary closeout review while anticipating the Engineer's final punch list. Upon receiving the list, the Contractor shall correct each deficiency and respond to each item on the list. The process shall repeat until all items are satisfactorily addressed.
- B. When approved, the Engineer shall recommend the Owner accept the Work, release the Contractor, and make final payment to the Contractor. The Contractor shall not, however, be released from any conditions of the Performance Bond, legal rights of the Owner, warranties, guarantees, and Correction of Faulty Work following final payment
- C. The Engineer, at its discretion, shall issue a final Change Order stating the final quantities for the Project. Thereafter, the Owner will certify the approval of the Final Contract Amount which shall be the original Contract Amount plus all approved additions less all approved deductions and the Engineer shall forward all submitted data to the Owner.

**01 78 23 OPERATION AND MAINTENANCE DATA**

- A. Where Operations and Maintenance manual content is specified in individual specification sections (Divisions 02-49), Contractor shall submit reviewed manual content. Where applicable, Contractor shall clarify and update reviewed manual content to correspond to modifications and field conditions.
- B. Contractor shall submit three bound and labeled paper copies and one electronic (PDF) copy prior to requesting inspection for Substantial Completion and at least 30 days before commencing any required demonstration and training. Engineer may return a copy with comments at its discretion.
- C. Contractor to correct or modify each manual to comply with any comments from the Engineer. Contractor shall submit three final bound and labeled paper copies and one electronic (PDF) copy of each corrected manual within 30 days of receipt of Engineer's comments and prior to commencing any demonstration and training.
- D. Unless otherwise indicated, the Contractor shall organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system.
- E. A Table of Contents listing each product is required, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number and title.
- F. At a minimum, the following general information is required for each system:

1. Product name, model number, and use designations for products indicated on Contract Documents
2. Manufacturer's name
3. Equipment identification with serial number of each component
4. Equipment function
5. Operating characteristics
6. System, subsystem, and equipment descriptions
7. Use designations for systems and equipment indicated on Contract Documents

G. At a minimum, the following operations information is required for each system:

1. Performance and design criteria
2. Operating standards
3. Operating procedures
4. Operating logs
5. Wiring diagrams
6. Control diagrams
7. Piped system diagrams
8. Precautions against improper use
9. License requirements including inspection and renewal dates
10. Startup procedures
11. Equipment or system break-in procedures
12. Routine and normal operating instructions
13. Regulation and control procedures
14. Instructions on stopping
15. Normal shutdown instructions
16. Seasonal and weekend operating instructions
17. Required sequences for electric or electronic systems
18. Special operating instructions and procedures

H. At a minimum, the following maintenance information is required for each system:

1. Inspection procedures
2. Types of cleaning agents to be used and methods of cleaning
3. List of cleaning agents and methods of cleaning detrimental to product
4. Schedule for routine cleaning and maintenance
5. Repair instructions
6. Lists of repair materials and local sources of materials and related services
7. List of spare parts and local sources for parts
8. Copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds
9. Emergencies

10. Description and explanation of warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of installer, supplier, and manufacturer to maintain warranties
11. Instructions on stopping
12. Shutdown instructions for each type of emergency
13. Operating instructions for conditions outside normal operating limits
14. Required sequences for electric or electronic systems
15. Special operating instructions and procedures

**01 78 36 WARRANTIES**

- A. Warranties specified in other Sections shall be in addition to, and run concurrently with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. All equipment furnished and Work performed shall be under warranty for a period of two years from the date of final acceptance, in accordance with any "Maintenance and Guarantee Bond", from the date of final payment for the Contract Work regardless of the terms of any manufacturer or supplier warranties unless specifically identified in the Drawings or Division 02 through 49 Specifications that warranties for certain items are to exceed the two-year warranty.
- C. All Work specified to be designed or supplied by the Contractor will be guaranteed to perform as specified. Due to the defect, the Contractor shall supply any service material, equipment, or additional repairs required without charge.
- D. All parts of Work or equipment will be warranted to be free from defects in workmanship, design, and materials. If, in the opinion of the Engineer, any part of the equipment should prove defective either in material, workmanship, or operation during the warranty period, it will be replaced, and the unit will be restored to service at no expense to Owner. The two-year warranty period will begin again for that item after repair of equipment and other parts repaired in system. Contractor shall perform repairs expeditiously as directed by Engineer.
- E. Provide warranty from manufacturer for all major pieces of equipment. Manufacturer's warranty period will be concurrent with Contractor's running at a minimum of one year from date of final acceptance, unless otherwise specified. Engineer reserves the right to request warranties for equipment not classified as major. Contractor shall warrant equipment not considered to be major in Contractor's two-year warranty period even though certificates of warranty may not be required. This warranty from the manufacturer will not relieve the Contractor of the two-year warranty starting at the time of Owner's final acceptance of the equipment.
- F. Owner shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired. Should the Owner choose to occupy and use any completed portion of the Work prior to Final Completion, the two-year warranty for such portion of the Work will begin on the date of Project final acceptance, unless otherwise specified. Taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays completion of Work or causes refinishing of completed Work, Contractor is entitled to such extra compensation, extension of time, or both, as the Engineer may determine.

**01 78 39 PROJECT RECORD DOCUMENTS**

- A. The Contractor will keep one record copy of all Specifications, Drawings, Addenda, Contract Modifications, and Shop Drawings at the site in good order and annotated to show all measurements and changes made during the construction process. Contractor's annotations will form the basis of an as-built plan set.
- B. These record documents shall be available and delivered to the Engineer for the Owner prior to submittal of final application for payment.

**01 79 00 DEMONSTRATION AND TRAINING**

- A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

END OF SECTION



SECTION 31 05 13  
SOILS FOR EARTHWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Earth backfill and topsoil materials

1.02 REFERENCED SECTION

- A. Section 01 40 00 - Quality Requirements

1.03 REFERENCES

- A. ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.
  - 1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>(2,700 kN-m/m<sup>3</sup>))
  - 2. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
  - 3. ASTM D2922 - Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).
  - 4. ASTM D2487 – Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).

PART 2 PRODUCTS

1.04 SOIL MATERIALS

- A. Earth backfill: Excavated and re-used material or imported material, graded, free of lumps larger than 3 inches, rocks larger than 2 inches and debris. Material shall conform to ASTM D2487 Group Symbol CL or OL.
- B. Top Soil: Excavated and re-used material or imported material, graded, free of roots, rocks larger than one-half inch, subsoil, debris, large weeds and foreign matter. Material shall conform to ASTM D2487 Group Symbol OH or PT.

1.05 SOURCE QUALITY CONTROL

- A. Inspection will be performed under provisions of Section 01 40 00.

PART 3 EXECUTION

1.06 STOCKPILING

- A. Stockpile materials on site.
- B. Stockpile in sufficient quantities to meet project schedule and requirements.
- C. Separate differing materials with dividers or stockpile apart to prevent mixing.
- D. Direct drainage runoff away from stockpile to prevent erosion or deterioration of materials.

1.07 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in a clean and neat condition. Grade site to



prevent standing water.

END OF SECTION

SECTION 31 05 16  
AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aggregate materials to construct a granular subbase on an approved surface.

1.02 REFERENCES

- A. MDOT 2012 Standard Specifications for Construction – Section 902
- B. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb Hammer and 18-inch Drop.
- C. ASTM D3017 - Test Methods for Moisture Content of Soil and Soil Aggregate Mixtures.

PART 2 PRODUCTS

2.01 AGGREGATE MATERIALS

- A. Class II – Class II granular material conforming to MDOT Specification 902.07 - Granular Materials for Fill and Subbase.
- B. MDOT 21AA, 21A, 22A, 23A - Dense graded aggregate for aggregate base course conforming to MDOT Section 902.05 -Dense Graded Aggregates, Surface Course, Shoulders, and Patching.
- C. Granular fill: Well graded cohesionless soil materials complying with AASHTO 145 soil classifications group A-1, A-2, or A-3.

2.02 SOURCE QUALITY CONTROL

- A. Tests and analysis of aggregate material will be performed in accordance with ANSI/ASTM D1557 and ASTM D3017.
- B. If tests indicate materials do not meet specified requirements, all stockpiled and placed material is to be removed of and disposed of off-site.

PART 3 EXECUTION

3.01 STOCKPILING

- A. Stockpile in sufficient quantities to meet project schedule and requirements.
- B. Separate differing materials with dividers or stockpile apart to prevent contamination of materials.
- C. Direct surface water away from stockpile site so as to prevent erosion or deterioration of materials.

3.02 STOCKPILE CLEANUP

- A. Remove remainder of stockpile areas, return area to a clean and neat condition. Grade site surface to prevent free standing surface water and restore with seed or as appropriate.
- B. If a borrow area is indicated, leave area in a clean and neat condition. Grade site surface to prevent free standing surface water.

END OF SECTION



SECTION 31 20 00  
EARTH MOVING

PART 1      GENERAL

1.01    RELATED DOCUMENTS

- A.      Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to work in this Section.

1.02    DESCRIPTION OF WORK

- A.      The extent of earthwork is shown on drawings
- B.      Preparation of subgrade for building slabs and pavements is included as part of this work.

1.03    QUALITY ASSURANCE

- A.      Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B.      Standard Specifications: The current edition of the Michigan Department of Transportation (MDOT) Standard Specifications.

1.04    TESTING AND INSPECTION SERVICE

- A.      Owner will engage soil testing and inspection service for quality control testing during earthwork operations.

1.05    SUBMITTALS

- A.      Submit samples of fill materials, proposed for use on the project at least three (3) days before shipping to the site. Fill materials shall not be used until tested and approved by a quality control testing agency.

1.06    JOB CONDITIONS

- A.      Site Information:
  - 1.      Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn therefrom by Contractor. Data is made available for convenience of Contractor. Additional test borings and other exploratory operations may be made by Contractor at no cost to Owner.
  - 2.      The Contractor shall upon becoming aware of subsurface or latent physical change conditions differing from those disclosed by the original Soils Investigation work and/or from his knowledge of local geology and site problems, promptly notify the Owner verbally to permit verification of the conditions, and in writing, as to the nature and extent of the different conditions. No claim by the Contractor for any conditions differing from those anticipated in the plans and specifications and disclosed by the soil studies will be allowed, unless the Contractor has so notified the owner, verbally and in writing, as required above, of such conditions.
- B.      Existing Utilities
  - 1.      Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork

operations.

2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility Owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to the satisfaction of utility Owner.
3. Coordinate with utility companies for shut off of services if lines are active.
4. Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., sewer, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the approximate locations of such an installation, the exact locations shall be determined by careful probing or hand digging, and when it is uncovered, adequate protection shall be provided for the existing installation. All known owners of underground facilities in the area concerned shall be advised of proposed work at least forty-eight (48) hours prior to the start of actual excavation.

C. Use of Explosives

1. The use of explosives is not permitted.

D. Protection of Persons and Property

1. Barricade open excavations occurring as part of this work and post with warning lights.
2. Operate warning lights as recommended by authorities having jurisdiction.
3. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

## PART 2 PRODUCTS

### 1.07 SOIL MATERIALS

1. Satisfactory soil materials are defined as those complying with American Association of State Highway and Transportation Officials (AASHTO) M145, soil classification Groups A-1, A-2-4, A-2-5, A-2-6, A-2-7, A-3, A-4, A-5, A-6, A-7.
2. Unsatisfactory soil materials are peat and other organic soils, and soils contaminated with rubbish, debris and other deleterious matter.
3. Cohesionless soil materials include gravels, sand-gravel mixtures, sands and gravelly-sands.
4. Cohesive soil materials include clayey and silty gravels, sand clay mixtures, gravel silt mixtures, clayey and silty sands, sand silt mixtures, clays, silts and very fine sands.
5. General Backfill and Fill Materials include satisfactory soil materials described above free of debris, waste and frozen material, except utility trenches under pavements, walks and buildings which shall be backfilled with select granular fill.

6. Select Granular Fill shall consist of well graded cohesionless soil materials complying with American Association of State Highway and Transportation Officials (AASHTO) M145 soil classification groups A-1, A-2, and A-3.

## PART 3 EXECUTION

### 1.08 PROOF-ROLLING

- A. Proof-roll all cut areas after cutting and fill areas prior to filling. Pavement and building subgrade shall be proof-rolled prior to placement of surface materials. Any material that pumps or yields under proof-rolling shall be either (1) aerated and recompact to the satisfaction of the Engineer, or (2) removed and replaced with satisfactory soil and compacted as herein specified. The proof-rolling equipment, as a minimum, should consist of a fully loaded, single-axle with dual wheel at 18 kips dump truck, 16 tons gross weight. Two to three coverages of this equipment over the area being proof-rolled can be considered as adequate.

### 1.09 EXCAVATION

- A. Excavation consists of removal and disposal of material encountered when establishing required grade elevations.
- B. It may be necessary to use a layer of crushed stone as directed by the Soils Engineer on soft, wet areas, so that the construction traffic can be supported. Also, during the removal of organic soils at the low-lying areas, if persistent water is encountered in excavations, it may be necessary to use crushed stone to raise the grade above the water table, and place engineered fill on the stone to bring the grade to the design level.
- C. Excavate to elevations shown on Drawings or stop excavation at an elevation one (1'-0") foot below top of slab if no elevation is shown on the drawing.
  1. Unauthorized excavation
    - a. Consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be at Contractor's expense.
    - b. Backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by Engineer
  2. Additional Excavation
    - a. When excavation has reached required subgrade elevations, notify Engineer who will make an inspection of conditions.
    - b. If unsuitable bearing materials are encountered at required subgrade elevations, carry excavations deeper and replace excavated material as directed by Engineer.
    - c. Removal of unsuitable material and its replacement as directed will be paid on basis of contract conditions relative to changes in work.
  3. Stability of Excavations
    - a. Slope sides of excavations to comply with local codes and

ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

- b. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

4. Shoring and Bracing

- a. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
- b. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
- c. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
- d. Provide permanent steel sheet piling or pressure creosoted timber sheet piling wherever subsequent removal of sheet piling might permit lateral movement of soil under adjacent structures. Cut off tops as required and leave permanently in place.

5. Dewatering

- a. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
- b. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations.
- c. Convey water removed from excavations and rain water to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.

6. Material Storage

- a. Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
- b. Locate and retain soil materials away from edge of excavations. Dispose of excess soil material and waste materials as directed by the Owner or the Engineer.

7. Excavation for Structures

- a. Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10' and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction and for inspection.

- b. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavate by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive other work.
- 8. Excavation for Pavements
  - a. Cut surface under pavements to comply with cross sections, elevations and grades as shown.
- 9. Excavation for Trenches
  - a. Dig trenches to the uniform width required for particular item to be installed, sufficiently wide to provide ample working room. Provide six (6") inches to nine (9") inches clearance on both sides of pipe or conduit.
  - b. Excavate trenches to depth indicated as required. Carry depth of trenches for piping to establish indicated flow lines and invert elevations.
  - c. Where rock is encountered, carry excavation six (6") inches below required elevation and backfill with a six (6") inch layer of crushed stone or gravel prior to installation of pipe.
  - d. Grade bottoms of trenches as indicated, notching under pipe bells to provide solid bearing for entire body of pipe.
  - e. Backfill trenches with concrete where trench excavations pass within eighteen (18") inches of column or wall footings and which are carried below bottom of such footings, or which pass under wall footings. Place concrete to level of bottom of adjacent footing.
  - f. Do not backfill trenches until tests and inspections have been made and backfilling authorized by Engineer. Use care in backfilling to avoid damage or displacement of pipe systems.
- 10. Cold Weather Protection
  - a. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F. (1C).

## 1.10 COMPACTION

- 1. General
  - a. Control soil compaction during construction providing minimum percentage of density specified for each area classification.
- 2. Percentage of Maximum Density Requirements
  - a. Compact soil to not less than the following percentages of maximum dry density determined in accordance with ASTM D 1557; Method "A" for cohesive soils and Method "C" for cohesionless soils.
- 3. Lawn or Unpaved Areas
  - a. Compact each layer of backfill or fill material to ninety (90%) percent maximum dry density.



4. Pavements

- a. Compact top eighteen (18") inches of subgrade and each layer of backfill or fill material to ninety-five (95%) percent maximum dry density. Compact below top eighteen (18") inches of subgrade and each layer of backfill material to ninety (90%) percent of maximum dry density.

5. Moisture Control

- a. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
- b. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
- c. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by disking, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

1.11 BACKFILL AND FILL

1. General

- a. Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.
  - 1) In excavations: Use satisfactory excavated or borrow material
  - 2) Under grassed areas: Use satisfactory excavated or borrow material
  - 3) Under asphalt pavements: Use aggregate base material, or satisfactory excavated, or borrow material, or combination of both, as shown on plans.

2. Backfill excavations as promptly as work permits, but not until completion of the following:

- a. Acceptance of construction below finish grade including, where applicable, damp proofing, waterproofing and perimeter insulation
- b. Inspection, testing, approval.
- c. Removal of concrete formwork.
- d. Removal of shoring and bracing and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in manner to prevent settlement of the structure or utilities or leave in place if required.
- e. Removal of trash and debris
- f. Permanent or temporary horizontal bracing is in place on horizontally supported walls.

3. Ground Surface Preparation

- a. Remove vegetation, debris, unsatisfactory soil materials,

obstructions and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than one (1) vertical to four (4) horizontal so that fill material will bond with existing surface.

- b. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

4. Placement and Compaction

- a. Place backfill and fill materials in layers not more than nine (9") inches in loose depth for material compacted by heavy compaction equipment, and not more than four (4") inches in loose depth for material compacted by hand operated tampers.
- b. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice.
- c. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying material uniformly around structure to approximately same elevation in each lift.

## 1.12 GRADING

1. General

- a. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

2. Grading Outside Building Lines

- a. Grade areas adjacent to building lines to drain away from structures and to prevent ponding.

3. Compaction

- a. After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

## 1.13 FIELD QUALITY CONTROL

1. Quality Control Testing During Construction

- a. Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.
- b. Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable. Also, density of soil and soil aggregate in place by nuclear methods with ASTM D 2922 (shallow depth).

2. Paved Areas and Compacted Fill Areas

- a. Make at least one field density test of subgrade for every 2,000 square feet of proposed paved area. Also, in each area requiring compacted fill, make one field test for every 10,000 square feet

END OF SECTION

SECTION 31 22 00  
GRADING

PART 1      GENERAL

1.01    SUMMARY

- A.      Provide all materials, labor, equipment, and services necessary to complete all site grading as indicated in this Construction Documents. The work consists of, but is not limited to:
  - 1.      Stripping, stockpiling, and removal of Topsoil.
  - 2.      Earth moving and land balance required to meet proposed subgrades.
  - 3.      Subgrade preparation of building slabs, walks, and pavements.
  - 4.      Compaction of all areas in native soil, cut, or fill.
  - 5.      Stockpiling and removal of suitable and unsuitable material other than Topsoil.

1.02    QUALITY ASSURANCE

- A.      If required, the services of a Soils Engineer and Soils Laboratory will be retained by the Owner, to observe earthwork operations, analyze soil materials and perform applicable laboratory and field tests.
- B.      The Contractor shall arrange and pay for any other test or required inspections needed to meet the requirements set forth in these Construction Documents.
- C.      As a minimum the Soils Engineer shall perform the following tests:
  - 1.      The soils laboratory shall analyze all native or imported fill and backfill material and topsoil proposed for use to determine the suitability for use and compliance with the Contract Documents.
    - a.      Fill and backfill material shall be examined as to soil classification and tested to determine the plasticity index, optimum moisture content and dry density.
    - b.      After rough grading and prior to spreading of topsoil, the topsoil in lawn areas and the topsoil to be placed in and subgrade in planting beds shall be examined for organic content, acidity and soil composition.
  - 2.      All-natural grades to be retained, all areas of cut, and all areas of controlled fill shall be field tested by the Soils Engineer for moisture content and percent of compaction for compliance with specified values.
    - a.      The number of tests performed shall be at the discretion of the Soils Engineer. Except that the number of field tests performed shall not be less than the minimum described below.
      - 1)      Within the building area perform one (1) test for every 500 cubic yards of fill and backfill or in areas of natural grade or cut one (1) test for every 10,000 square feet, except that such tests must be located as to give equal coverage to all portions of the building subgrade.
      - 2)      Within the paved areas of the site, except trench excavations perform one (1) test for every 2000 cubic yards

of fill or in areas of natural grade or cut one (1) test for every 40,000 square feet.

- D. Emphasis should be given to the aesthetic appearance and functioning of berms and swales, as directed by the Landscape Architect or Owner's Representative. The Contractor shall employ skilled personnel and any necessary equipment to ensure that finish grading is smooth, aesthetically pleasing, drains well and is ideal for receiving sod and plant materials.

#### 1.03 SUBMITTALS

- A. The Soils Engineer shall submit the following reports directly to the Owner or Owner's Representative, with a copy to Contractor:
  - 1. Classification and suitability of borrow material.
  - 2. Field reports; in-place soil density tests.
- B. Compaction Results
  - 1. The Soils Engineer shall advise the Contractor and Owner or Owner's Representative immediately of any compaction tests failing to meet specified minimum requirements. The contractor shall take appropriate steps to meet the compaction requirements. No additional lift is to be placed onto a soil with any portion failing to meet compaction requirements.

#### 1.04 DEFINITIONS

- A. EXCAVATION: Consists of removal of material encountered to subgrade elevations indicated on the Plans, Specifications, Addenda, Change Orders or other written direction by the Owner.
- B. UNAUTHORIZED EXCAVATION: Consists of removal of materials beyond indicated elevations or dimensions. Unauthorized excavation will be restored as indicated below at no expense to the Owner.
  - 1. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, when approved by Soils Engineer.
  - 2. In locations other than those above, backfill and compact unauthorized excavations with material approved by the Soils Engineer.

#### 1.05 JOB CONDITIONS

- A. The Contractor shall visit the site and acquaint himself with all existing conditions. The Contractor shall be responsible for his own subsurface investigations, as necessary, to satisfy requirements of this Section. All subsurface investigations shall be performed only under time schedules and arrangements approved in advance by the Owner's Representative.
- B. SITE INFORMATION: The data provided regarding subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that the Owner will not be responsible for interpretations or conclusions made by the Contractor. Subsurface data may be provided by the Owner.
- C. It will be the responsibility of the Contractor to coordinate and schedule the Site grading operations with the excavation and Site Utility Contractors so as to provide for a smooth and orderly progression of the Work.

- D. The Owner shall provide the services of a Registered Land Surveyor to establish all lines, levels, grades, bench marks and measurements required to lay out the Work.
- E. Construction stakes becoming misaligned are to be checked before proceeding with the Work. Any re-staking required will be performed by the owner's surveyor and back-charged to the contractor.
- F. EXISTING UTILITIES: Locate existing underground utilities in areas of Work. If utilities are to remain in place, provide means of support and protection during earthwork operations.
  - 1. Before starting site operations, verify that the earlier Contractors have disconnected all temporary utilities which might interfere with the fine grading work.
  - 2. Observe rules and regulations governing respective utilities in working under requirements of this section. Adequately protect utilities from damage, remove or relocate as indicated, specified or required. Remove, plug or cap inactive or abandoned utilities encountered in excavation. Record location of active utilities.
  - 3. Should pipes, conduit, or other utilities be encountered during excavation, consult Utility Owner immediately for directions. Cooperation with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of Utility Owner.
  - 4. Do not interrupt existing utilities serving facilities occupied by Owner or others, during occupied hours, except when permitted in writing by the Owner and then only after acceptable temporary utility services have been provided.
    - a. Provide minimum of 48-hours' notice to the Owner and receive written notice to proceed before interrupting any utility.
  - 5. Demolish and completely remove from Site existing underground utilities indicated to be removed. Coordinate with utility companies for shutoff of services if lines are active.
- G. Protect bench marks, utilities, structures, fences, sidewalks, paving, curbs and other facilities from earthwork equipment. In the event of damage, immediately make all repairs, replacements and dressings to damaged plants necessary. Contractor shall incur all cost for the replacement of damaged objects and vegetation.
- H. Natural features which are not subject to changes by reason of the Drawings and Specifications shall not be defaced or injured in any manner.
- I. The Contractor shall guard against movement or settlement of adjacent buildings or structures, and provide bracing, as necessary. He shall be responsible for safety and support of such buildings or structures and be liable for any movement or settlement. If at any time any adjacent buildings or structures appear to be endangered or unsafe, he should cease operations, and take precautions to support such buildings or structures. Once building or structures have been stabilized, the Contractor should notify the local Building Inspector and the Engineer. Operations shall be resumed only after permission has been granted. If the Engineer or Building Inspector considers additional bracing or shoring necessary to safeguard, or prevent movement or settlement, such bracing or shoring should be installed. If the Contractor fails to comply promptly with such

order, such bracing and shoring may be placed by the Owner, at no expense to the Owner.

- J. Dust control: Use all means necessary to prevent dust from construction operations from being a nuisance to adjacent property owners and from damaging finish surfaces on adjacent building, paving, etc. Methods used for dust control are subject to approval by the Land-scape Architect of Owner's Representative.

## PART 2 PRODUCTS

### 2.01 FILL MATERIAL

- A. Materials for fill required to achieve design grades shall be either on- or offsite soils which are free of organic matter and debris. Refer to plan details for appropriate fill materials.
- B. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

## PART 3 EXECUTION

### 3.01 TOPSOIL STRIPPING / REMOVAL

- A. Excavate or strip topsoil in all cut-and-fill areas and stockpile for later use in connection with finish grading / landscape restoration. Excavate topsoil to the depths required to remove all organic material from subgrade, but not less than 2-in. Transport and deposit topsoil in stockpiles at designated locations in a manner convenient for spreading and finish grading.
- B. Any excavated or stripped topsoil for later use in connection with finish grading shall be screened of all debris prior to reuse.
- C. It shall be the responsibility of the contractor to dispose of any unused topsoil offsite in a legal manner.

### 3.02 STOCKPILING

- A. Contractor may be allowed to stockpile excavated topsoil, separate from other excavated materials for later use. Stockpile area shall be cleared and grubbed prior to placing any topsoil. Keep stockpile free of all undesirable materials. Make stockpiles neatly shaped, and free to drain. Place stockpiles at locations shown on Drawings or as directed by Owner.

### 3.03 PROOF ROLLING

- A. Do all cutting or site grading work required to meet indicated subgrades. After completion of the earthwork operation, the subgrade area not receiving fill material shall be proof rolled in place and then compacted as specified under "Compaction Density" for a particular area classification. The subgrade area receiving fill material shall be proof rolled prior to placement of fill.
  - 1. During the performance of site grading operations, the subgrade shall be examined critically; and any areas discovered which, in the opinion of the Owner's Representative or Soils Engineer, are soft and unstable, shall be excavated to such depths as may be necessary to insure satisfactory supporting properties. These areas of excavation shall be backfilled immediately and shall be brought back to the elevation of the surrounding areas with approved fill material and in accordance with the earth fill construction procedure.

2. If pockets of unstable ground are encountered, notify the Owner's Representative or Soils Engineer to determine course of action. Do not proceed in area until authorization is granted.

### 3.04 PLACEMENT

- A. Prior to grading operations, remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
- B. Fill all areas as required to meet indicated subgrades. Fill material shall conform to the requirements of these Specifications and shall be approved by the Soils Engineer prior to placement.
  1. The surface of all areas shall be scarified by means of a disc or harrow to a minimum depth of 4-6 inches. An initial three-inch (3") layer of fill material shall then be spread over the scarified surface and the entire area compacted per the "Compaction Density" requirements.
- C. Fill shall be deposited in 9-in. loose layers for material compacted by heavy compaction equipment, and not more than 4" layer when compacted by hand-operated tampers.
  1. No frozen material should be used as fill nor shall any fill be placed on surfaces that are frozen or contain frost or ice.
  2. When the fill meets the natural grade of a slope, a bench shall be cut in the existing slope. These cuts are to serve as keys to connect the existing grades with a newly-placed fill.
- D. The moisture content of fill material shall not deviate from the optimum by more than 2 percent. Moisture content shall not exceed the optimum of any material which displays pronounced deformation under construction equipment. Drying of wet soil shall be expedited by the use of plows, discs, harrows, or other approved methods. If additional water is required, it should be uniformly distributed through the use of approved water wagons and shall be thoroughly incorporated into the material by means of discs or other suitable mixing equipment. Care shall be taken to avoid trapping water within the fill.
- E. If sufficient approved native fill material is not available to achieve indicated subgrade elevations, the Contractor shall obtain additional material from off-site borrow pits.

### 3.05 FINISH GRADING

- A. Perform topsoil installation within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide uniform levels and slopes between new elevations and existing grades.
- B. Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water will be directed away from buildings and that no low areas are created to allow ponding. Contractor to consult with Owner or Landscape Architect regarding minor variations in grade elevations before rough grading is completed.
- C. Supply and spread topsoil to a uniform depth as noted on the plans or indicated in the landscape restoration section of the contract documents.
- D. Grade lawn areas to a smooth, free draining even surface with a loose, moderately coarse texture ready to accept seed or sod.



- E. Provide earth crowning where indicated on drawings.
- F. Crowning/mounding to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that toe of slope is not readily visible. Engineer to verify final contouring before planting.
- G. The surface will be graded smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of  $\pm 1/10$  of a foot when tested with a 10' straightedge.

### 3.06 LAND BALANCE

- A. A balanced grading plan is NOT provided for this project. All removal of material from the site or fill material necessary to bring the site to the indicated elevations shall be the Contractor's responsibility as part of the base bid. The Contractor is responsible to make his own determination of the quantity of required fill or surplus material.

### 3.07 UNNECESSARY GRADING

- A. Unnecessary Grading: The expense of grading of materials outside of limits indicated or ordered in writing by the Engineer and the correction thereof to the satisfaction of the Engineer shall be borne by the Contractor.
- B. Unnecessary grading under footings: Either deepen footings to bear on actual subgrade elevation without changing top elevations or place concrete fill up to required elevation, as required by the Engineer.
- C. Unnecessary grading other than under footings: Either place compacted fill or otherwise correct conditions, as required by the Engineer.
- D. When required by the architect due to the unforeseen presence of unsatisfactory materials or other factors, perform additional grading and replace with approved compacted fill material in accordance with the Owner's instructions.
- E. Payment for unforeseen additional work will be made in accordance with established unit prices or, if none, in accordance with provisions for changes in the work. No payment will be made for correction of subgrades improperly protected against damage from freeze-thaw or accumulation of water, or for correction of otherwise defective subgrades.

### 3.08 COMPACTION / DENSITY

- A. Compact to at least the following percentage of maximum density, as determined by ASTM D-1557 (Modified Proctor). No deviation from these compaction densities will be allowed unless specifically approved by the Soils Engineer:

<u>Material</u>	<u>% of Maximum Density</u>
Fill under building (extending 5 feet beyond footings at a slope of 1 on 1)	98%
Fill under pavement or sidewalks, and within a 1:1 slope	95%
Fill placed under or behind retaining walls	95%
All other fill	90%

- B. No backfill shall be placed against any masonry or other exposed building surface until permission has been given by the Owner's Representative, and in no case until the masonry has been in place seven days.
- C. Compaction in limited areas shall be obtained by the use of mechanical tampers or approved hand tampers. When hand tampers are used, the materials shall be deposited in layers not more than four inches thick. The hand tampers used shall be suitable for this purpose and shall have a face area of not more than 100 square inches. Special precautions shall be taken to prevent any wedging action against masonry or other exposed building surfaces.
- D. Place backfill and fill materials in layers not more than 9 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

### 3.09 MAINTENANCE

- A. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- C. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.
- D. Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent Work. Eliminate evidence of restoration to greatest extent possible. No additional payment will be made.

### 3.10 FIELD QUALITY CONTROL

- A. Compaction testing will be performed in accordance with ASTM D1557.
- B. If tests show Work does not meet specified requirements, remove Work, replace and retest.
- C. Frequency of Tests: Every 50 feet apart or as specified by the Engineer.

### 3.11 CORRECTION OF GRADE

- A. Bring to required grade, areas where settlement, erosion, or other grade changes occur. Adjust grades as required to carry drainage away from buildings and to prevent ponding around the buildings and on pavements.
- B. Remove all rock or objectionable material larger than 1 inch prior to commencing landscaping.

- C. Contractor shall be responsible for
  - 1. Stabilizing grades by approved methods prior to landscaping
  - 2. Correction of grades as mentioned above, and
  - 3. Cleaning up any wash outs or erosion.

### 3.12 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Contractor is to completely remove from site all waste material, including unacceptable excavated material, trash and debris, in a legally established method.

END OF SECTION

## SECTION 31 23 16.13 TRENCHING

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Excavating trenches for underground piping and utilities.
- B. Compacted fill from top of utility bedding to subgrade elevations.
- C. Backfilling and compaction.

#### 1.02 REFERENCED SECTIONS

- A. Section 01 31 00 Project Management and Coordination
- B. Section 01 14 00 Quality Requirements
- C. Section 31 05 13 Soils for Earthwork
- D. Section 31 05 16 Aggregates for Earthwork
- E. Section 03 30 00 Cast-In-Place Concrete

#### 1.03 REFERENCES

- A. ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.
  - 1. ASTM C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
  - 2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>))
  - 3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
  - 4. ASTM D2922 - Test Methods for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth)

#### 1.04 DEFINITIONS

- A. Utility: Any buried pipe, conduit or cable.

#### 1.05 FIELD MEASUREMENTS

- A. Verify that survey bench mark and intended elevations for the Work are as shown on drawings.

#### 1.06 COORDINATION

- A. Coordinate work under provisions of Section 01 31 00.
- B. Verify work associated with lower elevation utilities are complete before placing higher elevation utilities.

### PART 2 PRODUCTS

#### 1.07 FILL MATERIALS

- A. Earth Backfill: As specified in Section 31 05 13.

- B. Class II Granular Material: As specified in Section 31 05 16.
- C. Concrete: Lean concrete conforming to Section 03 30 00 with a compressive strength of 2000 psi.

## PART 3 EXECUTION

### 1.08 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Protect plant life, lawns, and other features remaining as a portion of final landscaping.
- C. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavation equipment and vehicular traffic.
- D. Maintain and protect above and below grade utilities which are to remain.
- E. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with material specified and compact to density equal to or greater than requirements for subsequent backfill material.

### 1.09 EXCAVATION

- A. Excavate subsoil required for utilities.
- B. Excavation to sufficient widths and depths to provide adequate room for construction, bedding and installation of the work to lines, grades and dimensions called for on plans. Trench width from invert to a height 12 inches above top of utility to conform to the schedule at the end of this Section.
- C. Do not interfere with 45 degrees bearing zone of foundations.
- D. Hand trim excavation. Hand trim for bell and spigot pipe joints. Remove loose matter.
- E. Correct areas over excavated with Class II granular material or as approved by engineer.
- F. Remove excess excavated material from site.

### 1.10 BACKFILLING

- A. Backfill trenches to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Class II Granular Materials: Place and compact materials in continuous layers not exceeding 12 inches compacted depth.
- D. Earth Backfill: Place and compact material in continuous layers not exceeding 8 inches compacted depth.
- E. See schedule at end of this Section for backfill requirements.
- F. Maintain optimum moisture content of fill materials to attain required compaction density.
- G. Leave fill material stockpile areas completely free of excess fill materials.

### 1.11 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

#### 1.12 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 40 00.
- B. Compaction testing will be performed in accordance with ASTM D1557.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace, compact and retest.
- D. Frequency of Tests: Every 25 feet, as requested by Engineer, and under pavements.

#### 1.13 PROTECTION OF FINISHED WORK

- A. Protect installed Work as acceptable to Engineer.
- B. Reshape and re-compact fills subjected to vehicular traffic during construction.

#### 1.14 SCHEDULES

- A. Trench widths for hollow conduits:

<u>Pipe Diameter</u>	<u>Maximum Trench Width</u>
4" to 12"	30"
15" to 36"	Pipe O.D. + 12"
42" & Greater	Pipe O.D. + 24"

- B. Backfill requirements.

1. Concrete and Asphalt Pavements, Sidewalks, Driveways and Parking Areas:
  - a. Crossing Paved Area - Mechanically tamped sand or gravel (suitable excavated sand or gravel material may be used), placed in 6-inch lifts, loose measure. Compact to minimum 90% of maximum unit weight to a point 18 inches below finished grade. Top 18 inches, minimum of 95% of maximum unit weight.
  - b. Parallel trench less than 4 feet from a paved area, meet same requirements as a crossing trench.
  - c. Parallel trench less than 10 feet and greater than 4 feet from a paved area - Place backfill material into trench in 6-inch lifts, loose measure, with each lift compacted to not less than 90% of maximum weight. Excavated material may be used provided compaction requirements can be met.
2. Gravel Roads, Driveways and Parking Areas
  - a. Crossing Gravel Pavement: Place backfill material into trench in 6-inch lifts, loose measure, with each lift compact to not less than 90% maximum unit weight. Excavated material may be used provided compaction requirement can be met. Immediately restore the roads, driveways and parking areas with MDOT 21A gravel or slag aggregate, at least 8 inches thick and maintain them in good, dust-free condition during the life of the contract. Add additional aggregate if settlement occurs. Before final

acceptance of the road, driveway or parking area, top-dress with approved material to match the original surface treatment. Suitably stabilize gravel with calcium chloride. Oil gravel, if necessary, to match original surface treatment.

- b. Parallel Trench less than 4 feet away: Meet same requirements as a crossing trench.

3. Open Fields and Lawn Areas

- a. Backfill trenches in lawn areas with excavated material placed into the trench in 12-inch lifts, with each lift thoroughly compacted.
- b. Backfill all other trenches by spreading backfill material neatly into trench. Regrade as necessary during the life of the contract.

4. Special Backfill

- a. Where called for on the plans or where required by "Road Permits", backfill trenches and/or other excavation in 6-inch-deep lifts, loose measure, with each lift compacted in accordance with the requirements of said plans or "Road Permits" before the succeeding lift is placed.
- b. At all locations where "Special Backfill Requirements" are called for on the plans, the Owner will employ an independent testing laboratory to perform compaction tests. The Contractor and the testing laboratory will work together to establish guidelines which, under reasonable circumstances, will produce the desired compaction results. The costs of all successful results will be paid for by the Owner. Costs for retesting areas which fail will be paid for by the Contractor. Compact to 95 percent modified proctor.

END OF SECTION

SECTION 31 23 23.13  
BACKFILL

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Site filling and backfilling
- B. Fill under slabs on grade
- C. Fill under paving and parking lot
- D. Consolidation and compaction as scheduled
- E. Fill for over-excavation

1.02 REFERENCED SECTIONS

- A. Section 01 31 00 Project Management and Coordination
- B. Section 01 14 00 Quality Requirements
- C. Section 01 50 00 Temporary Facilities and Controls
- D. Section 31 05 13 Soils for Earthwork
- E. Section 31 05 16 Aggregates for Earthwork
- F. Section 03 30 00 Cast-In-Place Concrete

1.03 RELATED INFORMATION

- A. Document: Geotechnical reports; bore hole locations and findings of subsurface materials.

1.04 REFERENCES

- A. ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.
  - 1. ASTM C136 – Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - 2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>(2,700 kN-m/m<sup>3</sup>))
  - 3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
  - 4. ASTM D2922 - Test Methods for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow depth).

PART 2 PRODUCTS

2.01 FILL MATERIALS

- A. Earth Backfill: As specified in Section 31 05 13.
- B. Structural Fill: Class II material as specified in Section 31 05 16.
- C. Concrete: Lean concrete, structural concrete conforming to Section 03 30 00 with a compressive strength of 2,000 psi.



## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Where backfill will place un-equalized horizontal loading on concrete structure, verify that concrete has attained 70 percent of its design strength.

### 3.02 PREPARATION

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of in situ compaction. Backfill with fill as specified in Schedule at end of this section.

### 3.03 BACKFILLING

- A. Backfill areas to contours and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Structural Fill: Place and compact materials in continuous layers not exceeding 8 inches compacted depth.
- D. Earth Backfill: Place and compact material in continuous layers not exceeding 8 inches compacted depth.
- E. Employ a placement method that does not disturb or damage other work.
- F. Maintain optimum moisture content of backfill materials to attain required compaction density. Backfill against supported foundation walls and slabs. Do not backfill against unsupported foundation walls.
- G. Backfill simultaneously on each side of unsupported foundation walls until supports are in place.
- H. Slope grade away from building minimum 2 inches in 10 feet unless noted otherwise.
- I. Make gradual grade changes. Blend slope into level areas.
- J. Leave fill material stockpile areas free of excess fill materials.
- K. Remove surplus backfill materials from site.

### 3.04 TOLERANCES

- A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.
- B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

### 3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 40 00.
- B. Compaction testing will be performed in accordance with ASTM D1557.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: Every 50 feet
- E. Proof roll compacted fill surfaces under slabs-on-grade and paving, as required by Engineer.

3.06 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01 50 00.
- B. Reshape and re-compact fills subjected to vehicular traffic.

3.07 SCHEDULE

- A. Fill under grass areas.
  - 1. Earth backfill to 3 inches below finished grade, compacted to 85% modified proctor.
- B. Fill under asphalt paving.
  - 1. Earth backfill to bottom of aggregate base course placed in 8-inch lifts and compacted to 95% modified proctor.
- C. Fill to correct over excavation. Lean concrete with minimum compressive strength of 2,000 psi.

END OF SECTION



SECTION 32 05 05  
SELECTIVE DEMOLITION FOR EXTERIOR IMPROVEMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal and disposal or salvage of structures.
- B. Disconnection, capping, and removal of existing utilities.
- C. Demolition and removal of slabs on grade.
- D. Refer to items as indicated on drawings.

1.02 REFERENCED SECTIONS

- A. Section 01 60 00 Product Requirements
- B. Section 01 70 00 Execution and Closeout Requirements

1.03 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 70 00.
- B. Accurately record actual locations of capped utilities and subsurface obstructions.

1.04 REGULATORY REQUIREMENTS

- A. Conform to applicable codes for demolition of structures, safety of adjacent structures, dust control, and disposal of materials.
- B. Obtain required permits from authorities.
- C. Notify affected utility companies prior to starting work and comply with their requirements.
- D. Conform to applicable regulatory procedures when discovering hazardous or contaminated materials.
- E. Rules, regulations or laws of any controlling Governmental Agency shall govern when they are more stringent than the requirements of this Section.

1.05 DESCRIPTION

- A. Provide all labor, materials, and equipment necessary for the completion of all Demolition as shown on the Drawings and specified herein.
- B. All on and offsite Work included consists of but is not limited to:
  - 1. Demolition in part or in whole of existing buildings, footings, foundations, structures, and facilities together with subsequent removal of resulting debris.
  - 2. Removal of existing sidewalks, drives, curbs, and pavement.
- C. Removal, disconnecting or capping off of existing utilities, underground structures, septic tanks, disposal fields, etc.
- D. Removal or clearing of landscaping, trees, brush, debris, and miscellaneous Site elements as indicated on the Drawings.
- E. Removal from Site and disposal of all excess and unusable material.

## 1.06 DEFINITIONS

- A. Remove: Remove items from existing construction and legally dispose of them off-site.
- B. Remove and Reinstall: Carefully remove items from existing construction, prepare them for reuse, and reinstall them where indicated. Prior to reinstalling the item, the Contractor shall make a determination as to its soundness. Items which exhibit signs of wear or deterioration shall only be discarded on agreement with the Owners Representative.
- C. Remove and Salvage: Remove items from existing construction and deliver them to owner.

## 1.07 QUALITY ASSURANCE

- A. The Contractor shall visit the Site so that a full understanding of the difficulties and restrictions for execution of the Contract are made. Verify the location of all pertinent items. No additional compensation will be allowed for failure to be so informed.
- B. The Contractor shall submit a schedule indicating proposed sequence of operations for selective demolition Work to the Owner for review prior to commencing Work. Include coordination for shutoff, capping, and continuation of utility services as required, together with details for dust and noise control protection.
- C. Comply with regulatory requirements and notification regulations before beginning selective demolition.
- D. Comply with hauling and disposal regulations of authorities having jurisdiction. A receipt indicating acceptance of hazardous wastes from a landfill facility licensed to accept such materials shall be submitted to the owner.

## 1.08 JOB CONDITIONS

- A. Existing structures, utilities, drives, walks, etc., have been shown on the plans in their approximate location, others may exist and may be found upon visiting the site. It shall be the responsibility of the Contractor to accurately locate all facilities and to determine their extent. If such facilities obstruct the progress of the Work and are not indicated to be removed or relocated, they shall be removed or relocated only as directed by the Owner.
- B. Owner assumes no responsibility for the actual condition of items or structures to be demolished.
- C. Contractor shall investigate the possibility of existing septic tanks and drain fields near the location of existing foundations, prior to demolition. In the event that any possible septic tanks exist, this Contractor shall make further investigations, as necessary, to locate the septic tank and drain fields. Any septic tank and drain field found to exist shall be removed in accordance with the requirements of State and Local Health Departments.
- D. Protect trees, plants, and natural features which are to remain as final landscaping.
- E. Restore to their present conditions any pavement in public right-of-way that is disturbed by the Work under this Section. All pavement restoration work in public rights-of-way shall be performed to the satisfaction of the governmental agencies having jurisdiction.

- F. If cutting torches are used, take all necessary precautions to prevent setting of fires, including the use of fireproof tarpaulins and fire extinguishing apparatus adjacent to cutting area.
- G. Notify utility companies if removal or relocation of any existing utilities is required.
- H. Promptly repair damages caused to adjacent facilities by demolition Work.
- I. Do not close, block, or otherwise obstruct access to existing streets, sidewalks, driveways, and other adjacent occupied or used facilities during demolition. Any proposed closures shall have written permission from the authority having jurisdiction.
- J. Maintain existing utilities and protect them against damage during demolition operations.
  - 1. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
  - 2. Maintain fire protection services during demolition operations.
- K. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
- L. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
- M. Underground Storage Tank Removal: Contact all State, Federal and local agencies as may be required and determine the governing agencies requirements and provide agency contact information to the owner prior to construction.
  - 1. Completely remove all tanks, equipment lines, foundations and surrounding soils. Keep owner informed as to the progress of the work and notify immediately of any irregularities.

#### 1.09 DRAINAGE MAINTENANCE

- A. During the entire course of operations, all existing drainage ways, both into and from the Project area shall be maintained in a functional condition.
- B. At all times during the clearing operation, the exposed areas of subgrade shall be maintained in a condition compatible with positive drainage of the Work area. Failure to maintain such drainage shall be considered adequate cause for the Contractor to order temporary suspension of the Work.
- C. Cut drainage swales and provide temporary grading to carry storm water away from the demolition area. No water will be permitted to stand in open excavations.

### PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Use repair materials identical to existing materials. If identical materials are unavailable, use new materials whose performance is equal to or surpasses that of the existing material.
- B. Comply with material and installation requirements specified in the individual sections of this contract.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Provide, maintain, and later remove, temporary barriers, warning signs, blinker lights and other safety measures as required for the protection of personnel and the public.
- B. Locate, identify, and protect all known utilities which are to remain. If utilities are uncovered that are not shown on the plans, notify the owner and cease work in the immediate areas until instructed to how to proceed.
- C. Notify utility companies, if required to remove and/or relocate utilities.
- D. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structures to be demolished and adjacent facilities to remain.
- E. Cease operations and notify Owner immediately if safety of structure or adjacent structures appear to be endangered. Take precautions to support structure and DO NOT resume operations until a determination is made for continuing operations.
- F. Provide bypass connections as necessary to maintain continuity of service to occupied areas of building.
- G. Check with the water and sewer departments, Gas Company, and private utility companies to assure that all utilities and services, are inoperative prior to their removal.
- H. Protect trees, plant growth, and features designed to remain as final landscaping.
- I. If cutting torches are used, take all necessary precautions to prevent setting of fires, including the use of fireproof tarpaulins and maintenance of fire extinguishing apparatus adjacent to cutting area.

### 3.02 DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent structures and occupancies.
- B. Cease operations immediately if adjacent structures appear to be in danger. Notify Engineer. Do not resume operations until directed.
- C. Conduct operations with minimum interference to public or private accesses. Maintain egress and access at all times.
- D. Conduct operations in such a manner as to create a minimum of noise, dust and other disturbances.
- E. Do not allow removed materials, rubbish and debris to accumulate. Keep construction area and all public and private property used in connection with the work in a neat and orderly condition.
- F. Do not interrupt existing utilities.
- G. Methods shall be such as to prevent premature collapse of any section and damage to facilities indicated to remain in place and new construction.
- H. Removed material not indicated for turning over to owner or specified for reuse, as well as rubble and debris resulting from removal operations, shall become the property of the contractor and shall be removed daily from the project site and legally disposed of off the project site.

- I. When required to lift materials and/or equipment over or near an existing occupied building, advanced notice and arrangements with the owner's representative must be made to have any potential endangered spaces vacated. No such lifting shall be done without the permission of the owner's representative.

### 3.03 DEMOLITION

- A. Perform demolition Work in a systematic manner. Use such methods as required to complete Work indicated on Drawings in accordance with demolition schedule and governing regulations.
- B. Sawcut asphalt pavement full depth at limits indicated for removal.
- C. Concrete pavement shall be sawcut full depth and removed to the joint nearest the indicated removal limit or where specifically directed.
- D. Where piping is to be bullheaded, provide a permanent, water-tight plug consisting of brick and concrete mortar, one foot thick or prefabricated plugs intended for this purpose.
- E. Maintain in operating conditions all active utilities, sewers and drains encountered.
- F. The Contractor shall use extreme caution in removing any structures and utilities above and below grade to prevent damage to existing utilities which are to remain in service. Any existing utilities to remain, which are in any way damaged, shall be replaced at no additional cost to the Owner.
- G. Conduct operations in such a manner as to minimize noise, dust and other disturbances.

### 3.04 DISPOSAL OF DEMOLISHED MATERIALS

- A. Demolished material not indicated for turning over to the owner or specified for reuse, including rubble and other debris, shall become the property of the contractor and shall be removed daily from the project site and legally disposed of off the project site, at no expense to the Owner.
  1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling, and protection against exposure or environmental pollution.
  2. Burning of materials shall not be permitted on Site.

### 3.05 CLEANUP AND REPAIR

- A. Upon completion of demolition Work, remove tools, equipment, and demolished materials from Site.
- B. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to condition existing prior to start of operations. Repair adjacent construction damaged by demolition Work.

END OF SECTION





SECTION 32 11 23  
AGGREGATE BASE COURSES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aggregate base course

1.02 REFERENCED SECTIONS

- A. Section 01 40 00 Quality Requirements
- B. Section 31 05 16 Aggregates for Earthwork

1.03 REFERENCES

- A. ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.
  - 1. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>(2,700 kN-m/m<sup>3</sup>))
  - 2. ASTM D2922 - Standard Test Method for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).
  - 3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
- B. Michigan Department of Transportation - MDOT
  - 1. 2003 Standard Specifications for Construction.

PART 2 PRODUCTS

2.01 FILL MATERIALS

- A. MDOT 21AA Dense Graded Aggregate.
- B. Class II Granular Material: As specified in Section 31 05 16 Aggregates for Earthwork.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify substrate has been inspected, gradients and elevations are correct and dry.

3.02 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to a total compacted thickness as shown on plans.
- B. Place aggregate in maximum 8-inch layers and roller compact.
- C. Level and contour surfaces to elevations and gradients indicated.
- D. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.

- E. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- F. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

### 3.03 TOLERANCES

- A. Flatness: Maximum variation of 1/4 inch measured with 10-foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/4 inch.
- C. Variation from True Elevation: Within 1/2 inch.

### 3.04 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 40 00.
- B. Compaction testing will be performed in accordance with ASTM D1557, ASTM D2922, ASTM D3017.
- C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- D. Frequency of Tests: 50 feet

### 3.05 SCHEDULES

- A. Under Asphalt Pavement:
  - 1. Compact MDOT 21AA aggregate materials to achieve compaction of 95 percent of the maximum dry density.
- B. Under Concrete Sidewalks and Slabs
  - 1. Compact Class II granular materials to achieve compaction of 95 percent of the maximum dry density.

END OF SECTION

SECTION 32 13 13  
CONCRETE PAVING

PART 1      GENERAL

1.01    SECTION INCLUDES:

- A.     Concrete Pavement
- B.     Concrete Sidewalk, Ramps, and Steps
- C.     Concrete Driveways / Drive Approaches
- D.     Concrete Dumpster Pads

1.02    REFERENCES

- A.     American Concrete Institute (ACI)
  - 1.     ACI 301 - Specifications for Structural Concrete.
  - 2.     ACI 302 - Guide for Concrete Floor and Slab Construction.
  - 3.     ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
  - 4.     ACI 305R - Hot Weather Concreting.
  - 5.     ACI 306R - Cold Weather Concreting.
  - 6.     ACI 308 - Standard Specification for Curing Concrete.
  - 7.     ACI 318 - Building Code Requirements for Structural Concrete (ACI 318-05) and Commentary.
- B.     ASTM International. For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.
  - 1.     ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
  - 2.     ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
  - 3.     ASTM A775 - Standard Specification for Epoxy-Coated Steel Reinforcing Bars
  - 4.     ASTM B221 - Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
  - 5.     ASTM C33 - Concrete Aggregates.
  - 6.     ASTM C94 - Ready-Mixed Concrete.
  - 7.     ASTM C150 - Portland Cement.
  - 8.     ASTM C260 - Air Entraining Admixtures for Concrete.
  - 9.     ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
  - 10.    ASTM C494 - Chemicals Admixtures for Concrete.
  - 11.    ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type).

12. ASTM D1190 - Concrete Joint Sealer, Hot-Poured Elastic Type.
  13. ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- C. Concrete Reinforcing Steel Institute (CRSI)
    1. Manual of Standard Practice
  - D. Michigan Department of Transportation - MDOT
    1. 2003 Standard Specifications for Construction.
  - E. Americans with Disabilities Act (ADA)
- 1.03 DESCRIPTION
- A. Provide all materials, labor, equipment, and services necessary to complete the concrete improvements as indicated in the Construction Documents.
- 1.04 QUALITY ASSURANCE
- A. Installer shall be qualified with at least 3 years in business and has completed pavement work similar in material, design, and extent to that indicated for this Project.
  - B. Manufacturer shall be certified in the production of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
  - C. Submit concrete mix designs for proposed slabs on grade.
  - D. Submit shop drawings and certified copies of mill report of reinforcement materials analysis.
  - E. Concrete quality assurance testing, as required, will be performed by the owner/construction engineer in accordance with Sections 604 and 605 of the 2003 MDOT Standard Specifications for Construction.
  - F. Submit, to the Owner, two copies of materials certificates signed by Material Producer and Contractor. Certificates shall state that each material item meets specified requirements.
  - G. Submit, to the Owner, job-mix formulas for each required cement-aggregate mixture. Mix designs shall be within allowable tolerances as specified for the particular application.
- 1.05 TRAFFIC CONTROL
- A. Maintain vehicle and pedestrian traffic during paving and repair operations in such a manner as to not disrupt normal traffic activities unless special notification has been distributed.
- 1.06 WEATHER LIMITATIONS
- A. Construct pavement surface course only when ground temperature is above 40 degrees F. and base is dry. Base course may be laid when temperature is above 40 degrees F. and rising. Do not place pavement when base or surface is wet or frozen.
  - B. Cold Weather Protection
    1. When the temperature of the atmosphere is 40-degrees F and below, the concrete shall be protected by heating, insulation covering, housing or

combination thereof as required to maintain the temperature of the concrete at or above 50-degrees F and in a moist condition continuously for the concrete curing period.

2. Cold weather protection shall meet the requirements of ACI 306R "Cold Weather Concreting."

C. Hot Weather Protection

1. When the temperature of the atmosphere is 90-degrees F and above, or during other climatic conditions which will cause too rapid drying of the concrete, the concrete shall be protected by windbreaks, shading, fog spraying light-colored moisture-retaining covering, or a combination thereof as required to maintain the temperature of the concrete below 80-degrees F and in a moist condition continuously for the concrete curing period.
2. Hot weather protection shall meet the requirements of ACI 305R "Hot Weather Concreting."

1.07 SUBMITTALS

A. Concrete Mix Designs

1. Prior to any concrete pavement placement, the contractor shall submit a design mix for approval by the engineer for each pavement mix proposed. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
2. Proportion mixes to provide concrete for pavement and gutter and spillways with the following properties.
  - a. Compressive Strength (28 days): 3,500 psi, unless otherwise indicated
  - b. Maximum Aggregate Size: 1.5 inches
  - c. Slump: 3 inches (for formed concrete), 1.5 inches (for slipform placement)
  - d. Total Air Content by Volume: 5% to 8%

PART 2 PRODUCTS

2.01 MATERIALS

- A. All materials used in concrete pavement and spillway construction shall be in accordance with Section 801.02 of the MDOT 2003 Standard Specifications for Construction.
- B. The fine aggregate shall meet all requirements of the MDOT 2003 Standard Specification for No. 2NS Natural Sand.
- C. The coarse aggregate shall meet of requirements of the MDOT 2003 Standard Specification for No. 6AA Coarse Aggregate.
- D. Water used in concrete shall be clean, free from oil, acids strong alkalies or vegetable matter and potable. If City water is used in the concrete, all necessary permits shall be obtained from the City Water Department.
- E. Joint and waterproofing materials for use in concrete pavement shall conform to Section 904 of the MDOT 2003 Standard Specifications for Construction

- F. The curing compound shall be white membrane type and conform with ASTM C-309, Type 2.

## 2.02 READY-MIXED CONCRETE MANUFACTURER'S QUALIFICATIONS

- A. All ready-mixed concrete suppliers must be approved by the Owner. Concrete shall be manufactured and delivered to the job Site by a ready-mixed concrete manufacturer meeting the requirements of the National Ready Mixed Concrete Association (NRMCA) certification program.
- B. Ready-mixed concrete shall be mixed and delivered to the point of discharge at the job by means of a ready-mix concrete truck. Delivery tickets in accordance with Section 16 of ASTM C94 for each concrete load delivered to and used at the site shall be signed by the owner's designated representative. The delivery tickets shall provide at minimum the following information:
  - 1. Date
  - 2. Name of ready mix concrete plant
  - 3. Contractor
  - 4. Job location
  - 5. Type (Standard or H.E.S.) and brand of cement
  - 6. Cement content in bags per cubic yards of concrete
  - 7. Truck number
  - 8. Time dispatched and time unloaded
  - 9. Amount of concrete in load in cubic yards
  - 10. Admixtures in concrete
  - 11. Maximum allowable slump in inches
  - 12. Amount of water added at job in gallons, if any
- C. No water from the truck water system or elsewhere shall be added after the initial introduction of the mixing water for the batch. Under no circumstances shall the approved maximum water content be exceeded, nor shall the slump exceed the maximum specified.
- D. Discharge of the concrete shall be completed in compliance with Table 601-1 of the MDOT 2003 Standard Specifications for Construction.
- E. Concrete delivered in cold weather (air temperature 45-degrees F. and lower) shall have a temperature not less than 60-degrees F. at the point of discharge at job, and in compliance with ACI 306 R "Cold Weather Concreting". Concrete placing will not be permitted when the air temperature is 35-degrees F. or lower.
- F. Concrete delivered under hot weather conditions contributing to quick stiffening of concrete, or in air temperature of 80-degrees F. and over, shall have a temperature between 60- and 80-degrees F. at the point of discharge at job, and in accordance with ACI 305 R "Hot Weather Concreting."

## 2.03 REINFORCEMENT MATERIALS

- A. Reinforcing Bars: ASTM A615-84A, Grade 60 Deformed Billet-Steel Bars.
- B. Epoxy-Coated Reinforcement Bars: ASTM A775 with ASTM A615, Grade 60, deformed bars.
- C. Plain Steel Welded Wire Fabric: ASTM A185 plain type, flat sheet fabrication.

- D. Reinforcing Steel Bar and Rod Mats: ASTM A704, ASTM A615, Grade 60, deformed bars
- E. Epoxy-Coated Joint Dowel Bars: ASTM A615 with ASTM A615, Grade 60, plain steel bars.
- F. Hook Bolts per ASTM A307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- G. Tie Wires to be black, annealed steel wire, not less than 16-gauge.
- H. Supports for Reinforcements: Bar supports conforming to "Bar Support Specifications" contained in ACI "Manual of Standard Practice". Provide chairs, spacers and other devices suitable for proper spacing, supporting and fastening reinforcing bars.
- I. Shop fabricate reinforcing bars to conform to the shapes and dimensions shown on the reviewed Shop Drawings and in accordance with ACI "Manual of Standard Practice," current edition.

#### 2.04 FORMS

- A. All forms shall extend 1" deeper than full depth of the proposed pavement section and cleaned before each use.
- B. Fixed forms shall be of sufficient strength to resist springing during concrete-placing operations, and of an approved section with flat surface on top.
- C. Flexible form materials may consist of plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
- D. A commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces shall be applied to the forms before concrete installation.

### PART 3 EXECUTION

#### 3.01 GRADING

- A. All new pavement shall be placed on a prepared subgrade, smoothed and leveled to the grades indicated on the Plans.
- B. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction and repair as required. In clay soils the subgrade shall be excavated 4 inches below the sidewalk base and filled with approved sand meeting MDOT Class II granular fill.
- C. Grade all sidewalk ramps to achieve current ADA and barrier free requirements.

#### 3.02 SETTING FORMS

- A. Compact and cut-to-grade subgrade under forms so that forms when set will be uniformly supported for the entire length. Securely stake and brace or tie forms to prevent leakage of concrete. Bracing with piles of earth will not be permitted.
- B. Coat surfaces of forms to be in contact with concrete with a light clear paraffin oil or parting compound which will not stain the concrete.
- C. Before start of concrete placing, form Work shall be complete and approved by the Soils Engineer.



- D. Hardened concrete, debris and foreign material shall be removed from interior of forms.

### 3.03 PLACING REINFORCEMENT

- A. Provide reinforcement for concrete slabs on grade as shown on the Drawings. Reinforcement shall be kept clean and free from objectionable rust. Bends or kinks in reinforcing bars shall be corrected before placing. All reinforcement shall be accurately located in forms and securely held in place, before and during concrete placing, by supports adequate to prevent displacement during the course of construction.
- B. Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

### 3.04 CONTRACTION JOINTS

- A. Provide contraction joints in concrete sidewalk T/4-inch-deep by 3/16 inches wide at 5-foot intervals, unless a more detailed jointing pattern is called for.
- B. For other contraction joints form by tooling or sawing a 1/4 inch wide joint T/4 inches deep in a checkerboard pattern. In no case shall the joints be greater than 10 feet in any direction.
- C. Joints shall be cut perpendicular to the surface and at right angles to the edge of pavement, unless a more detailed jointing pattern is called for.

### 3.05 EXPANSION (OR ISOLATION) JOINTS

- A. Provide expansion joints for concrete sidewalks and ramps at tangent points, radius returns, at intersections, and in straight runs at uniform intervals not exceeding 100 linear feet.
- B. Separate slabs on grade from vertical surfaces with 3/4 inch thick joint filler.
- C. Provide expansion joints between concrete pavement and adjacent rigid structures not specified herein before.

### 3.06 CONCRETE PLACING

- A. Unless indicated otherwise, concrete slabs on grade shall comprise of the following thickness:
  - 1. sidewalks: 4 inches thick
  - 2. sidewalks across drives: 6 inches thick
  - 3. sidewalk ramps: 6 inches thick
  - 4. residential driveways: 6 inches thick
  - 5. commercial/industrial driveways: 8 inches thick
  - 6. dumpster pads: 8 inches thick
- B. Concrete shall be handled from the point of delivery, to the concrete conveying equipment, and to the location of final deposit by methods, which will prevent segregation and loss of concrete mix materials. Handling will be in such a manner to ensure that the required quality of concrete is maintained.

- C. Before placing pavement, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- D. Cold-Weather concrete placement shall comply with ACI 306.1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- E. Hot-Weather concrete placement shall be according to recommendations in ACI 305R when hot-weather conditions exist.
- F. Equipment for Conveying Concrete:
  - 1. Runways for wheeled concrete conveying equipment shall be provided for the ready-mix concrete delivery point to the locations of final deposit.
  - 2. The interior surfaces of concrete conveying equipment shall be maintained free of hardened concrete, debris, water, snow, ice and other deleterious materials.
- G. When the temperature of steel forms is greater than 120-degrees F., the steel surfaces shall be sprayed with water just prior to placing the concrete.
- H. Concrete shall be deposited continuously. Concrete which has partly hardened or has been contaminated by foreign materials shall not be placed; such concrete shall be properly disposed of in an approved manner.
- I. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R.

### 3.07 CONCRETE FINISHING

- A. Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.
- B. Float pavement surface by hand floating. Cut down high spots and fill low spots.
- C. Apply a light broom finish in a longitudinal direction to concrete slabs on grade

### 3.08 CURING CONCRETE

- A. Apply curing compound uniformly in continuous operation by power spray.
- B. Newly placed concrete shall be protected as required to maintain the temperature of the concrete at not less than 50 degrees F. nor more than 80 degrees F. and in a moist condition continuously for a period of time necessary for the concrete to cure.
- C. Changes in temperature of the concrete during curing shall be as uniform as possible and shall not exceed 5 degrees F. in any one hour, nor 50 degrees F. in any 24-hour period.

### 3.09 REMOVAL OF FORMS

- A. All forms, rails and stakes shall be removed within 48-hours after placing the pavement.
- B. Any and all "honey combing" noticed upon removal of the forms shall be hand grouted.

- C. Upon removal of the forms, the remaining excavated area shall be backfilled with approved material, compacted thoroughly, and left in a neat condition.

#### 3.10 CLEANUP

- A. After completion of concrete curing in an area, remove all weather protection materials and rubbish and debris resulting from specified Work. Sweep concrete pavements clean.
- B. In no case shall the mixer or truck be flushed out onto the street pavement, in a catch basin or sewer manhole, or in any public right-of-way.

END OF SECTION

SECTION 32 91 13  
SOIL PREPARATION

PART 1      GENERAL

1.01    RELATED DOCUMENTS

- A.      Drawings and general provisions of the Contract, including any General and/or Supplemental Conditions that may have been revised as part of the documents.

1.02    DESCRIPTION OF WORK

- A.      The extent of earthwork is shown on drawings

1.03    QUALITY ASSURANCE

- A.      Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B.      Standard Specifications: Michigan Department of Transportation (MDOT)
- C.      Testing and Inspection Service
- D.      Owner will engage soil testing and inspection service for quality control testing during earthwork operations.

1.04    SUBMITTALS

- A.      Test Reports-Excavating: Submit following reports directly to Architect from the testing services, with copy to Contractor.
- B.      Test reports on borrow material.
- C.      Field density test reports

1.05    JOB CONDITIONS

- A.      Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
- B.      Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
- C.      Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Architect and then only after acceptable temporary utility services have been provided.
- D.      Provide minimum of 48-hour notice to Architect and received written notice to proceed before interrupting any utility.
- E.      Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- F.      Perform excavation within drip-line of large trees to remain by-hand, protecting the root system from damage or dryout to the greatest extent possible. Maintain moist condition for root system and cover exposed roots with burlap. Paint root cuts of 1" diameter and large with emulsified asphalt tree paint.

## PART 2 PRODUCTS

### 2.01 SOIL MATERIALS

#### A. Definitions

1. Satisfactory soil materials: Those complying with American Association of State Highway and Transportation Officials (AASHTO) M145, soil classification Groups A-1, A-3 as directed by Soils Engineer. Onsite materials that meet these requirements and are approved by Soils Engineer are acceptable.
2. Unsatisfactory soil materials: Those defined in AASHTO M145 soil classification A-2-6, A-2-7 and A-7; also, peat and other highly organic soils.
3. Cohesionless soil materials: include gravels, sand-gravel mixtures, sand and gravelly sands.
4. Cohesive soil materials: include clayey and silty gravels, sand-clay mixtures, gravel-silt mixtures, clayey and silty sands, sand-silt mixtures, clays, silts and very fine sands.

### 2.02 BASE MATERIALS

#### A. Backfill and Fill Materials:

1. Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter as directed by soils engineer.

## PART 3 EXECUTION

### 3.01 BACKFILL AND FILL

- A. Place acceptable soil material in layers to require subgrade elevations, for each area classification listed below.
- B. Under grassed areas, use satisfactory excavated or borrow material.
- C. Backfill against building walls, use sand fill to 6" below finish grade.
- D. Under steps, use sand fill material.
- E. Placement and Compaction: Place backfill and fill materials in layers not more than 8" in loose depth for material compacted by heavy compaction equipment, and not more than 4" in loose depth for material compacted by hand-operated tampers. Use only hand-operated equipment behind completed retaining walls.

### 3.02 GRADING

- A. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide uniform levels and slopes between new elevations and existing grades.
- C. Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding.
- D. Finish surfaces free from irregular surface changes, and as follows:

1. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10' above or below required subgrade elevations. Allow for 4" average depth of topsoil at lawn areas, and depth at planting areas as shown on landscape drawings, except as otherwise indicated on drawings.
  2. Walks: Shape surface of area under walks to line, grade and cross-section, with finish surface not more than 0.10' above or below required subgrade elevation.
- E. Grading at existing trees to remain:
1. Perform grading, within branch spread of existing trees to remain, by hand methods to elevations indicated.
  2. Cut roots cleanly to depth 3" below proposed finish grade. Coat cut roots with tree paint.

### 3.03 FINISH GRADING

- A. Uniformly distribute and spread topsoil. Provide 4" average depth at lawn areas, at planting areas shown on landscape drawings. Provide additional imported topsoil as required to complete the work. Do not use frozen or muddy topsoil. Place during dry weather.
- B. Fine grade topsoil eliminating rough and low areas to ensure positive drainage. Maintain levels, profiles, and contours of subgrades.
- C. Remove stones, roots, weeds, and debris while spreading topsoil materials. Rake surface clean of stones 1" or large in any dimension and all debris. Provide surfaces suitable for soil preparation provided under lawn and planting work.
- D. Manually install topsoil at trees to remain. Avoid damage to root systems.

### 3.04 MAINTENANCE

- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- C. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.
- D. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work and eliminate evidence of restoration to greatest extent possible.

### 3.05 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Removal from Owner's Property:
  1. Remove excess excavated material, trash, debris, waste and unsuitable materials and dispose of it off Owner's property.

END OF SECTION



## SECTION 32 92 19 SEEDING

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Preparation of subsoil
- B. Placing topsoil
- C. Seeding, hydroseeding, mulching and fertilizer
- D. Maintenance

#### 1.02 REFERENCED SECTIONS

- A. Section 01 31 00 Project Management and Coordination
- B. Section 31 05 13 Soils for Earthwork

#### 1.03 REFERENCES

- A. FS 0-F-241 - Fertilizers, Mixed, Commercial.
- B. Michigan Department of Transportation - MDOT
  - 1. 2003 Standard Specifications for Construction.

#### 1.04 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

#### 1.05 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, year of production, net weight, date of packaging and location of packaging.

#### 1.06 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of seed mixture.

#### 1.07 DELIVERY, STORAGE and HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.
- B. Deliver grass seed mixture in sealed containers. Seed in damaged packing is not acceptable.
- C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

#### 1.08 COORDINATION

- A. Coordinate work under provisions of Section 01 31 00.



## PART 2 PRODUCTS

### 2.01 SEED MIXTURE

#### A. Seed Mixture:

- |    |                            |     |
|----|----------------------------|-----|
| 1. | Kentucky Blue Grass:       | 30% |
| 2. | Creeping Red Fescue Grass: | 40% |
| 3. | Perennial Rye Grass:       | 30% |

### 2.02 SOIL MATERIALS

#### A. Topsoil: As specified in Section 31 05 13.

### 2.03 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life and dry. Hay or chopped cornstalks are not acceptable.
- B. Fertilizer: FS O-F-241, Type I, Grade A; recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil, to the following proportions:
  - 1. Nitrogen 33 percent, phosphoric acid 33 percent, soluble potash 33 percent.
- C. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Verify that prepared soil base is in accordance with Section 01 31 00 and is ready to receive the work of this Section.

### 3.02 PLACING TOPSOIL

- A. Place topsoil in areas where seeding, sodding and/or planting to a nominal depth of 6 inches. Place topsoil during dry weather.
- B. Fine grade topsoil eliminating rough or low areas. Maintain profiles and contour of subgrade.
- C. Remove roots, weeds, rocks and foreign material while spreading.
- D. Manually spread topsoil close to trees, plants, building and structures to prevent damage.
- E. Lightly compact placed topsoil.
- F. Remove surplus subsoil and topsoil from site.
- G. Leave stockpile area and site clean and raked, ready to receive landscaping.

### 3.03 TOLERANCES

- A. Top of Topsoil: Plus or minus half inch.

### 3.04 PROTECTION

- A. Protect landscaping and other features remaining as final work.
- B. Protect existing structures, fences, sidewalks, utilities, paving, and curbs.

### 3.05 SCHEDULES

- A. Compacted topsoil thickness at the following areas:
  - 1. Seeded Grass: 6 inches.
  - 2. Sod: 4 inches
  - 3. Shrub Beds: 12 inches
  - 4. Flower Beds: 12 inches
  - 5. Planter Boxes: To within 3 inches of box rim.

### 3.06 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions at a rate of 240 pounds per acre.
- B. Apply after smooth raking of topsoil.
- C. Do not apply fertilizer at same time or with same machine as will be used to apply seed.
- D. Mix thoroughly into upper 2 inches of topsoil.
- E. Lightly water to aid the dissipation of fertilizer.

### 3.07 SEEDING

- A. Apply seed at a rate of 100 lbs per acre evenly in two intersecting directions. Rake in lightly.
- B. Do not seed areas in excess of that which can be mulched on same day.
- C. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- D. Immediately following seeding, apply mulch to a thickness of 1/8 inch. Maintain clear of shrubs and trees.
- E. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

END OF SECTION



SECTION 32 93 00  
PLANTS

PART 1      GENERAL

1.01    SECTION INCLUDES

- A.    Provide trees, plants and ground covers as shown and specified. The work includes:
  - 1.      Soil Preparation
  - 2.      Trees, Plants, and Ground Covers
  - 3.      Planting Mixes
  - 4.      Mulch and Planting Accessories

1.02    REFERENCES

- A.    STM: American Society for Testing Materials.
- B.    American Standard for Nursery Stock ANSI Z60.1-1980; American Association of Nurserymen, Inc. 835 Southern building, Washington, D.C.
- C.    Scandalized Plant Names, 1942 edition, American Joint Committee on Horticulture Nomenclature.

1.03    DEFINITIONS

- A.    Weeds: Includes, but not limited to: Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Weed, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.
- B.    Plants: Living trees, plants and ground cover specified in this Section, and described in ANSI Z60.1.

1.04    MAINTENANCE DATA

- A.    Operations Data: Submit for continuing Owner maintenance.
- B.    Maintenance Data: Include cutting and trimming method; types, application frequency, and recommended coverage of fertilizer and watering.

1.05    QUALITY ASSURANCE

- A.    Plant names indicated, comply with "Standard Plant Names" as adopted by the latest edition of the American Joint Committee of Horticulture Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
- B.    Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensional as it stands in its natural position.
- C.    All plants shall be nursery grown under climatic conditions similar to those in the locality of the project or a minimum of two (2) years.
- D.    Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two measurements so that

only a maximum of 25% are the minimum size indicated and 75% are of the maximum size indicated.

- E. Provide "specimen" plants with a special height shape or character of growth. Tag specimen trees or shrubs at the source of supply. The engineer will inspect the specimen selections at the source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.
- F. As indicated on the plant list, Engineer shall select and tag trees at place of growth. Contractor shall have previously inspected trees at place of growth for compliance with specifications. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

#### 1.06 QUALIFICATIONS

- A. Nursery: Company specializing in growing and cultivating the plants with three (3) years documented experience.
- B. Installer: Company specializing in installing and planting the plants with three (3) years documented experience approved by nursery.
- C. Maintenance Services: Performed by installer and owner.

#### 1.07 REGULATORY REQUIREMENTS

- A. Comply with regulatory agencies for fertilizer and herbicide composition.
- B. Provide certificate of compliance from authority having jurisdiction indicating approval of plants, fertilizer and herbicide mixture.
- C. Plant Materials: Certified by state department of agriculture as described by ASTM Z60.1; free of disease or hazardous insects.

#### 1.08 DELIVERY, STORAGE and HANDLING

- A. Deliver fertilizer materials in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.
- B. Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filled with the Engineer. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Engineer. Water heeled-in plantings daily. No plant shall be wound with rope or wire in a manner that could damage or break the branches.
- C. Cover plants transported on open vehicles with a protective covering to prevent wind burn.
- D. Provide dry, loose topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.

#### 1.09 ENVIRONMENTAL REQUIREMENTS

- A. Do not install plant life when ambient temperature may drop below 35°F or above 90° F.

- B. Do not install plants when wind velocity exceeds 30 mph.

#### 1.10 COORDINATION

- A. Work notification: Notify Engineer at least 7 working days prior to installation of plant material.
- B. Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.
- C. Plant names and sizes are shown on the drawings. In the event that quantity discrepancies or material omission occur, the planting plans shall govern.

#### 1.11 WARRANTY

- A. Provide a two-year warranty.
- B. Warranty: Include coverage for two continuous growing seasons; replace dead or unhealthy plants.
- C. Replacements: Plants of the same size and species as specified, planted in the next growing season, with a new warranty commencing on date of replacement.

#### 1.12 MAINTENANCE SERVICE

- A. Maintain plant life immediately after placement until plants are well established and exhibit a vigorous growing condition and beginning of maintenance of owner.
- B. Maintenance to include:
  - 1. Cultivation and weeding planting beds and tree pits.
  - 2. Applying herbicides for weed control in accordance with manufacturer's instructions.
  - 3. Remedy damage resulting from use of herbicides.
  - 4. Remedy damage from use of insecticides.
  - 5. Irrigating sufficient to saturate root system.
  - 6. Pruning, including removal of dead or broken branches, and treatment of pruned areas or other wounds.
  - 7. Disease control.
  - 8. Maintain wrapping, guys, trunkbuckles, and stakes. Adjust turnbuckles to keep guy wires tight. Repair or replace accessories when required.

### PART 2 PRODUCTS

#### 2.01 TREES, PLANTS, AND GROUND COVER

- A. Plants: Provide plant typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scaled injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have fully developed from without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.
- B. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes comply with the latest edition of

the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.

- C. Container-grown stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
- D. No plants shall be loose in the container.
- E. Container stock shall not be pot bound.
- F. Provide tree species that mature to heights over 25' - 0" with a single main trunk. Trees that have a min trunk forming a "Y" shape are not acceptable.
- G. Plants planted in rows shall be matched in form.
- H. Plants larger than those specified in the plant list may be used when acceptable to the engineer.
- I. If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.
- J. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.
- K. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.
- L. Evergreen trees shall be branched to the ground.
- M. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.
  - 1. The measurements for height shall be taken from the ground level to the average height of the plant and not the longest branch.
  - 2. Single stemmed or thin plants will not be accepted.
  - 3. Side Branches shall be generous, well-twiggged, and the plant as a whole well-bushed to the ground.
  - 4. Plants shall be in moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.

## 2.02 SOIL AMENDMENT MATERIALS

- A. Fertilizer: Commercial complete standard product complying with State and Federal Fertilizer laws.
- B. Deliver to site in original unopened containers with manufacturers guaranteed statement of analysis or furnish Engineer with manufacturer's certificate of compliance covering analysis.
- C. Fertilizer shall be 10-6-4 composition by weight - Nitrogen 10%, Available Phosphoric Acid (P205) 6%, and Water-Soluble Potash (K20) 4%.
- D. At least 50% by weight of nitrogen content shall be derived from organic materials.
- E. Fertilizer shall be uniform in composition, free flowing and suitable for application with approved equipment.
- F. Contractor may substitute enriched bovine or equine droppings if adequate fumigatory protection is provided.
- G. Peat moss: Ground and shredded horticultural grade moss peat, supplied in bales from commercial source. Acidity shall be ph. 4.0 - 7.0. It shall contain not

less than 90% organic matter by weight on oven-dry basis. It shall contain no less than 35% and no more than 55% moisture by weight. Ash content shall not exceed 10%.

- H. Bone Meal: Raw, finely ground, commercial grade, minimum of 3% nitrogen and 20% phosphorous.
- I. Lime: Ground limestone, dolomite type, minimum 95% carbonates.
- J. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of plants.
- K. Herbicide: As required by nurseries.
- L. Pesticides: As required by nurseries.

#### 2.03 MULCH MATERIALS

- A. Shredded bark mulch: Shall consist of either mixed hardwood species or pine alone. Sixty (60) percent of shredded bark particles shall range between one (1) and three (3) inches in length; remaining forty (40) percent shall be less than one (1) inch in length. Maximum width of particles shall not exceed 1- 1/2 inches. Minimum depth of bark mulch shall be 4".

#### 2.04 ACCESSORIES

- A. Anti-Desiccant: Emulsion that, when applied, forms transparent protective film over plant surface, permeable enough to permit transpiration. WILT PRUF, manufactured by Nursery Specialty Products, Inc., or approved equal.
- B. Stakes: 2 x 2 wood, pointed at one end; length as required to extend 18" below bottom of tree ball or root base of item being staked.
- C. Guy Wire: 11-gauge pliable, galvanized guying wire.
- D. Tree Wrap: Heavy 4" wide brown kraft with bituminous inner coating manufactures by W.E. Clark and Son, Orane, Connecticut or approved equal.

### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Verify that prepared subsoil is ready to receive work.
- B. Saturate soil with water to test drainage

#### 3.02 PREPERATION OF SUBSOIL

- A. Prepare subsoil to eliminate uneven areas. Maintain profiles and contours. Make changes in grade gradual. Blend slopes into level areas.
- B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated subsoil.
- C. Scarify subsoil to a depth of 3 inches where plants are to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.
- D. Dig pits and beds 6 inches larger than plant root system.

#### 3.03 PLACING TOPSOIL

- A. Spread topsoil to a minimum depth of 6 inches over area to be planted.
- B. Place topsoil during dry weather and on dry unfrozen subgrade.



- C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.
- E. Install topsoil into pits and beds intended for plant root balls, to a minimum thickness of 6 inches.

### 3.04 INSTALLATION

#### A. General:

- 1. Transplanting shall be performed by professional familiar with accepted procedure of transplanting under supervision of qualified transplanting foreman.
- 2. Unless otherwise directed by Engineer, indication of plants on Drawings is to be interpreted as including digging of hole, furnishing plant of specified size, work of transplanting, mulching, guying, staking and wrapping.
- 3. Contractor shall inform Engineer 24 hours before making any delivery of plant material. Each shipment shall be accompanied by invoice showing sizes and varieties included. Copy of invoice shall be filed with Engineer upon delivery of plant material.
- 4. Location of plants and outlines for transplanting beds shall be staked on ground before digging begins. Adjustments in locations and outlines shall be made as directed. In the event that pits or areas for transplanting are prepared and backfilled with topsoil to grade prior to commencement of law operations, they shall be so marked that when work of transplanting proceeds, they can be readily located.
- 5. If stone, underground construction work, tree roots, poor drainage or other obstructions are encountered during excavation of tree pits, alternate locations may be selected by Engineer. Where locations cannot be changed as determined by Engineer, submit cost required to remove obstructions to depth of not less than 6" below required pit depth. Proceed with work after approval of Engineer.
- 6. Holes of trees shall be at least one foot greater in diameter than spread of root ball and at least 6" deeper than root ball. Holes for shrubs and vines shall be at least 6" greater in diameter than the spread of root ball or plant container and at least 6" deeper than root ball or plant container.
- 7. Transplanting soil shall be composed of four (4) parts topsoil well mixed with one (1) part peat moss.
- 8. All plant beds and all other areas noted on Plans shall have landscape mat installed throughout transplanting beds between soil and back mulch (except in annual transplanting areas). Mat shall be installed snug against edging with 3" space around individual plants. Lap all joints at least three (3) inches.

### 3.05 INSTALLING PLANTS

- A. Plant roots and earth balls shall be kept damp and thoroughly protected from sun and drying winds at all times. Plants shall be planted in center of holes at same depth as they previously grew. Planting soil shall be backfilled in layers of not

more than 9" and each layer tamped before next layer is put in place. Enough topsoil shall be used to bring surfaces to finish grade when settled.

- B. Cut ropes or strings from top of ball after plant has been set. Leave burlap wrapping intact around balls. Turn under and bury portions of burlap exposed at top of ball.
- C. Provide saucer around each plant as shown on Drawings.
- D. Saturate plant pits with water within 24 hours after planting.

### 3.06 PRUNING

- A. Plants shall not be pruned prior to delivery unless Engineer gives written permission. Pruning shall be executed only to preserve natural character of plant and in appropriate manner particular to each plant's design requirements. Amount of pruning shall be limited to not to exceed 33% of total plant as necessary to remove dead or injured twigs and branches, and to compensate for root loss resulting from transplanting. Do not cut leaders.
- B. Pruning shall be done with clean, sharp tools according to standard horticultural practices. Cuts shall be made flush leaving no stubs.
- C. Cuts over 1/2" diameter shall be painted over with approved tree paint. Paint shall cover all exposed living tissues. Injured cambium on bruises and scars shall be tracked back to living tissues and removed. Smooth and shape wounds so as not to retain water. Treat wound with paint.

### 3.07 WRAPPING

- A. Trunks of deciduous trees. 1-1/2" caliper and larger, shall be wrapped immediately after planting. Wrap trunk spirally from ground up to lowest branch and tie wrapping securely in place.

### 3.08 MULCHING

- A. Apply fertilizer evenly over plant bed at rate of one pound per 100 square feet of bed areas. Provide mulch over fertilized surfaces of saucers and over entire area of shrub bed as shown on Drawings.

### 3.09 STAKING AND GUYING

- A. Stake trees taller than 4'-0" and less than 4-1/2" diameter. Place stakes adjacent to outside of ball and drive vertically to depth of 18" below bottom of ball. Attach tree to stake with 11-gauge guying wire. Portion of wire in contact with tree shall be encased in 1/2" I.D. reinforced rubber hose. Use two (2) stakes for trees up to 2-3/4" in caliper and three (3) stakes for trees 3" to 4-1/2" in caliper. Trees that have blown down, sway excessively, or are otherwise injured because of improper bracing shall be replaced at the Contractor's expense.

END OF SECTION



## Maintaining Your Fleet

- Leaky vehicles and construction machinery can easily cause stream contamination by tracking fluids and other pollutants off site, eventually draining into a catch basin.
- You can prevent vehicle fluids from entering local bodies of water by ensuring that your vehicles and equipment are properly maintained and in good working condition.
- Proper disposal of chemical and other waste is critical to the health of streams and rivers. Solid and liquid waste materials are not meant to be dumped in catch basins. Remember that catch basins are made for storm water only!



## A Contractor's Guide to

# STORM WATER POLLUTION PREVENTION



Charter Township of Washington  
Department of Public Works  
Richard Amormino, Director  
Bonnie Krauss, Certified Storm Water Manager  
57900 Van Dyke  
Washington, MI 48094  
Phone: (586) 786-0010  
[www.washingtontwpmi.org](http://www.washingtontwpmi.org)  
[kraussb@washingtontwpmi.org](mailto:kraussb@washingtontwpmi.org)



## Our Watershed, Our Responsibility

- A watershed is an area of land that catches rain and snow melt and drains into a river, lake, stream or wetland. Washington Township is a part of three (3) watersheds; the Clinton River East Watershed (CREW), the North Clinton River Watershed and the Stoney / Paint Creek Watershed.
- As citizens and contractors in Washington Township and the surrounding watersheds, it is your duty to ensure that the surface waters of the community are kept clean and healthy.

## Where Do Storm Drains Go?

- Storm drains, catch basins and ditches are directly connected to local waterways.
- This direct connection means that whatever enters the drain eventually enters a river, lake, stream or wetland.
- When fertilizer, yard waste, sediment, or other contaminants enter a storm drain, it has adverse effects on local waterways.



## Eliminating Illicit Discharges

- An illicit discharge is the discharge of pollutants to storm sewer systems via overland flow or direct dumping into catch basins.
- Illicit discharges are illegal according to Part 186.000 of Washington Township's Ordinance. Reporting them can help eliminate the problem and keep our rivers and streams clean.
- Report an illicit discharge to the Pollution Emergency Alerting System at (800) 292-5706 or to Washington Township at (586) 786-0010.

## Practicing Healthy Land Care

- Use a fertilizer that is organic slow-release with low or no phosphorus. Phosphorus is the main cause of algae growth in streams, which depletes the oxygen aquatic organisms need to survive.
- Get your soil tested through your county Michigan State University Extension office. This will tell you what fertilizer you should use, if any.
- Don't dump leaves or grass clippings down the drain or blow them into the street!

- Decaying leaves also deplete the oxygen in streams. They can be used as mulch, or they can be disposed of by curbside pick-up.
- Manage riparian land wisely! Leaving a buffer of 20 feet between lawns and streams prevents stream bank erosion, stops pollutants from reaching the stream and creates a habitat for local wildlife.

## Managing Streets and Parking Lots

- Storm water runoff from streets and parking lots is a main cause of pollution because the storm water takes sediment and other solids with it into catch basins.
- The runoff from these impervious surfaces entering streams contains total suspended solids (TSS).
- Suspended solids make water in streams cloudy, which inhibits aquatic plant growth. This in turn affects the health of aquatic organisms that require oxygen from the aquatic plants.
- You can prevent this by keeping roads clean near the construction site and have a designated disposal area for cigarette butts and other small debris that can make its way into a catch basin.

SPECIAL PROVISION  
FOR  
**SUBGRADE UNDERCUTTING, TYPE II, MODIFIED**

GW

1 of 1

4-11-25

- a. **Description.** Perform subgrade undercutting in conformance with section 205 of the Standard Specifications for Construction except as modified herein.
- b. **Materials.** Use 21AA dense-graded aggregate meeting the requirements of section 902 of the Standard Specifications for Construction for backfill.
- c. **Construction.** Conform to subsection 205.03.E of the 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
Subgrade Undercutting, Type II, Modified.....	Cubic Yard

**Subgrade Undercutting, Type II, Modified** will be paid for as detailed in subsection 205.04.E of the Standard Specifications for Construction for Subgrade Undercutting.



MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**NON-HAZARDOUS CONTAMINATED MATERIAL HANDLING AND DISPOSAL**

ENV:JCW

1 of 2

APPR:DMG:DBP:02-26-20  
FHWA:APPR:03-02-20

**a. Description.** This work consists of handling, transporting, disposing of non-hazardous contaminated material, including all laboratory testing required for the proper disposal of the material and site restoration of temporary storage locations. Ensure this special provision is not employed without authorization by the Engineer. The laboratory testing will be used to solicit landfill approval and is not intended to determine whether or not the material is contaminated. Soil delineated on the plans and classified as non-hazardous contaminated cannot be used elsewhere on the project regardless of the laboratory test results unless otherwise directed by the Engineer.

**b. Materials.** None specified.

**c. Construction.** Complete this work in accordance with sections 204 and 205 of the Standard Specifications for Construction, except as modified herein or as directed by the Engineer.

1. Excavation of Non-hazardous Contaminated Material. Excavate non-hazardous contaminated material as shown on the plans or as directed by the Engineer.

2. Temporary Storage of Non-hazardous Contaminated Material. Place excavated non-hazardous contaminated material which is to be temporarily stockpiled on plastic sheeting or tarps having a minimum thickness of 6 mils or in trucks, roll off boxes, or other containers, such that no liquid may escape from the containment. Cover the non-hazardous contaminated material securely with plastic sheeting of 6 mils thickness or greater at the end of each work day.

Dispose of excavated non-hazardous contaminated material as soon as approval is received from the disposal site. This material cannot be stockpiled for longer than 30 days prior to disposal.

Restore temporary storage locations to the condition prior to conducting the work.

3. Sampling and Analysis of Non-hazardous Contaminated Material. Sample and analyze non-hazardous contaminated material prior to disposal. The analysis required is dictated by the Type II disposal facility to be utilized for disposal. Should the results of the analysis show the material to be hazardous waste, as defined by the 1994 PA 451, Part 111, of the Natural Resources and Environmental Protection Act, notify the Engineer immediately. The material must then be disposed of as directed by the Engineer.

4. Disposal of Non-hazardous Contaminated Material. Dispose of non-hazardous contaminated material at a licensed Type II sanitary landfill. Submit at the preconstruction



meeting the name of the Type II landfill to be used for disposal, the sampling and analysis requirements of that landfill, and verification that use of the proposed landfill will meet the requirements of the county solid waste plan.

Ensure the proposed landfill is acceptable to the Department and approval is obtained from the Engineer prior to commencing disposal operations. Provide a copy of the laboratory analysis to the Engineer as a requirement of approval for disposal. Following disposal and prior to approval for payment provide to the Engineer landfill receipts for all non-hazardous contaminated material disposed of.

**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**

Non Haz Contaminated Material Handling and Disposal, LM..... Cubic Yard

**Non Haz Contaminated Material Handling and Disposal, LM** will be measured by volume in cubic yards, LM. Provide to the Engineer receipts from the disposal facility for the number of cubic yards disposed of at that facility prior to payment. Payment will include all costs for materials, labor and equipment needed for storage, loading, transportation, testing, restoration of temporary storage locations and disposal of the non-hazardous contaminated material. Disposal costs will include all documentation required by the landfill.

Payment for excavation of non-hazardous contaminated material will be included with the related items of work.

Delays in testing and disposal of non-hazardous contaminated material that are not the fault of the Contractor may be considered valid reasons for extension of time. However, these delays and the resultant extensions of time will not be considered valid reasons for additional payment.

Should the analysis of the material document that it is hazardous waste, then payment for disposal of hazardous waste will be measured and paid for as extra work. Disposal includes hauling by a licensed hazardous waste hauler and disposal at an appropriate licensed disposal facility. Prequalification is waived.