



August 9, 2023

**TO ALL PROSPECTIVE BIDDERS**

**Re: WYOMISSING PUBLIC WORKS FACILITY  
Addendum No. 1  
McCarthy File 230004-8**

Following is **Addendum No. 1** for the Wyomissing Public Works Facility Project. Please note that the Bid Opening Date of Wednesday, August 16<sup>th</sup> has not changed.

**ADDENDUM NO. 1 - CLARIFICATIONS**

1. Several revisions have been made to the drawing sets. Drawings have been uploaded to the PennBid website.
2. All bid forms have been revised to remove the “Value Engineering” note. The General Trade bid form also was revised to include divisions 31-33 for site work.
3. Specification section 312000 3.4.A has been revised to indicate that no boring tests have been conducted.
4. Specification section 002113 4.03.D has been revised to indicate that all permit fees will be waived.
5. Specification section 012000 has revised. Sections 1.3 and 1.4 have been removed, as there will be no allowances or contingencies included.
6. Additional questions have been asked and responded to under the RFI section on PennBid.

**END OF ADDENDUM NO. 1**

You shall note receipt of all Addenda on the Bid Form; failure to note will constitute rejection of the bid. **Please note that acknowledgment of the receipt of this Addendum No. 1 is attached to this document.**

Sincerely,

Nick Perilli, EIT  
Project Engineer  
nperilli@mccarthy-engineering.com

Wyomissing Public Works Facility  
Addendum No. 1  
McCarthy File 230004-8

August 9, 2023

**Acknowledgement – Addendum No. 1:**

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

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

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

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

**INSTRUCTIONS TO BIDDERS**

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**ARTICLE 1 – DEFINED TERMS**

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

A. *Issuing Office* – on PennBid.

**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.

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. All permit fees will be waived.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

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

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

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

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

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

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

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at

- the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
  - H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
  - I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
  - J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### **ARTICLE 6 – PRE-BID CONFERENCE**

- 6.01 An optional pre-Bid conference will be held on site. The date and time will be announced on PennBid. The pre-bid meeting will be the only time potential bidders are able to access the site. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

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

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing via PennBid. 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 seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

#### **ARTICLE 8 – BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 10 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 Performance Bond, 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 Performance Bond within 10 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 90 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 Supplementary Conditions.

#### **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 any portions of the Work.

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such



Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, 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.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
- B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown. The corporate seal (optional) may be affixed and attested by the corporate secretary or an assistant corporate secretary.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.
- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

**ARTICLE 14 – BASIS OF BID**

## 14.01 Base Bid with Alternates

- A. Bidders shall submit a Bid on a lump sum basis for the base Bid and include a separate price for each alternate described in the Bidding Documents and as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the base Bid if Owner selects the alternate.
- B. In the comparison of Bids, alternates will be applied in the same order of priority as listed 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 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.

14.04 *Price-Plus-Time Bids*

- A. The Owner will consider the time of Substantial Completion commitment made by the Bidder in the comparison of Bids.
- B. Bidder shall designate the number of days required to achieve Substantial Completion of the Work and enter that number in the Bid Form as the total number of calendar days to substantially complete the Work.
- C. If Bidder purports to designate a time for Substantial Completion that is less than the allowed minimum, or greater than the allowed maximum, Owner will reject the Bid as nonresponsive.
- D. The Agreement as executed will contain the Substantial Completion time designated in Successful Bidder's Bid, and the Contractor will be assessed liquidated damages at the rate stated in the Agreement for failure to attain Substantial Completion within that time.
- E. Bidder shall also designate the time in which it will achieve Milestones, and achieve readiness for final payment. Such time commitments shall be consistent with the “Time of Substantial Completion” to which Bidder commits. The Agreement as executed will contain, as binding Contract Times, Successful Bidder's time commitments regarding Milestones, as applicable, and readiness for final payment.

**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 Security (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.
- 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.
- 15.04 The Borough reserves the right to award Phase 1 and Phase 2 of this project separately.
- 15.05 The project will be awarded as a multiple-prime contract.

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

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

**ARTICLE 17 – OPENING OF BIDS**

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

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

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

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

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner

will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.

19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.

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. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a "Base Bid plus alternates" budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

C. Bid prices will be compared after adjusting for differences in time of Substantial Completion (total number of calendar days to substantially complete the Work) designated by Bidders. The adjusting amount will be determined at the rate set forth in the Agreement for liquidated damages for failing to achieve Substantial Completion, or such other amount that Owner has designated in the Bid Form.

1. The method for calculating the lowest bid for comparison will be the summation of the Bid price shown in the Bid Form plus the product of the Bidder-specified time of Substantial Completion times the rate for liquidated damages \$600.00 per day.

2. This procedure is only used to determine the lowest bid for comparison and contractor selection purposes. The Contract Price for compensation and payment purposes remains the Bid price shown in the Bid Form.

19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

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

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

## **ARTICLE 21 – SIGNING OF AGREEMENT & FILING OF FORMS**

21.01 All prospective Bidders are required to complete a Non-Collusion Affidavit. This affidavit may be required on all projects involving public funding as provided in Section 7 of the Pennsylvania Anti-Bid-Rigging Act. The Non-Collusion Affidavit must be submitted with the Bid.

- 21.02 Contract forms are to be submitted as outlined in the Advertisement, Bid Form, Notice of Intent to Award, Notice of Award, and/or Agreement according to the following timelines.
- A. **At the time** of the initial bid, submit the Bid Form, Bid Security, Certification Statement, Non-Collusion Affidavit, and Contractor's Qualification Statement.
  - B. **After opening and review of bids**, OWNER or ENGINEER/ARCHITECT will send the Notice of Intent to Award to the apparent lowest qualified bidder. The form of this Notice is to be returned with the following within **10 days** in order to secure the Notice of Award (actual award):
    - 1. PERFORMANCE BOND
    - 2. PAYMENT BOND
    - 3. Insurance Certificates
    - 4. Workmen's Compensation Affidavit, and
    - 5. Public Works Employment Verification Form.
  - C. **Upon receipt** of these forms, the Notice of Award will be sent, which must be signed and returned along with the Agreement within a **second period of 14 days**.
  - D. **Within 10 days** thereafter, OWNER shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and/or electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.
  - E. **Upon completion of the project**, provide a Maintenance Bond to protect the Municipality from faulty or defective work by the Contractor. This bond shall cover a period of one year following the completion of the work and should be in an amount equal to at least 10% of the final contract price.
- 21.03 The Statement of Surety Company (004315) shall be submitted in accordance with instructions indicated on those forms relative to requests for payment.
- 21.04 PUBLIC WORKS EMPLOYMENT VERIFICATION ACT
- A. The CONTRACTOR and SUBCONTRACTOR shall furnish the form prescribed by the Contract Documents to the OWNER affirming compliance with the Public Works Employment Verification Act through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. Starting January 1, 2013, all public works contractors and subcontractors are required to verify that newly-hired employees are authorized to work in the United States. The Public Works Employment Verification Act (Act 127 of 2012), which was signed into law July 2012, is part of an effort to ensure that employees on public projects are eligible to work in this country. Contractors and Subcontractors must verify eligibility using the U.S. Department of Homeland Security's E-Verify internet program.

SECTION 004113.1 – GENERAL TRADES (INCLUDING PEMB AND SITEWORK) BID FORM

**NAME OF PROJECT:** WYOMISSING PUBLIC WORKS FACILITY

**ADDRESS OF PROJECT:** WYOMISSING BOROUGH, BERKS COUNTY, PA

**OWNER:** Wyomissing Borough  
22 Reading Boulevard  
Wyomissing, PA 19610  
ATTN: Jim Babb

**BASE BID**

In compliance with the Project Manual, the undersigned, having carefully examined the Bidding Documents and having had the opportunity to visit the site and examine all conditions affecting the work, proposes to do all such work, including the furnishing of all necessary labor, machinery, equipment, materials, supplies, transportation and incidentals as required by the Bidding Documents, for the stipulated sum of:

**Total Bid Sum:**

---

<i>Sum expressed in words</i>	Dollars	\$
<i>Sum expressed in words (continued)</i>		<i>Sum expressed in figures</i>

**SCHEDULE**

If awarded a contract for the work described by the Contract Documents, the undersigned will complete the work, without exception, in the following number of calendar days from the time of issuance of the Notice to Proceed:

<b>Total Number of <u>Calendar</u> Days to Complete the Work</b>	<b>470</b>	<b>Days</b>
<b>Earliest Start Date</b>	September 18, 2023	
<b>Estimated Date of Completion</b>	December 31, 2024	

**SCHEDULE OF VALUES:**

**BASE BID**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Project Subtotal (Divisions 2-14, 31-33, including PEMB), includes bonding, insurance, mobilization, etc.	1	LS	\$ _____	\$ _____

**BASE BID SUBTOTAL** \$ \_\_\_\_\_

**ALTERNATES**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Mill and Overlay	8,216	SF	\$ _____	\$ _____
2.	Remove and Replace Fencing	301	LF	\$ _____	\$ _____

**TOTAL AMOUNT OF BID** \$ \_\_\_\_\_

**GOOD FAITH:**

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

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Document, and the following Addenda, receipt of all which is hereby acknowledged.

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

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and test of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities).
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- 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 correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents inclusive of the General Conditions.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder further represents that this Bid is genuine and not in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- L. Bidder acknowledges that the Borough of Wyomissing may delete all or a portion of the project, in one or more instances, in its sole discretion, which it deems appropriate. In such instance, the Borough of Wyomissing and the CONTRACTOR will deduct from the Contract price an amount equal to the value of the Work to be deducted including overhead and profit. If the parties do not agree as to the dollar amount of the deduction, the ENGINEER will render a decision which will be final and binding upon both parties
- M. The Bidder agrees to progress payments in accordance with the General Conditions and the Supplementary Conditions at such unit values as indicated herein (the total of the unit values and quantities being equal to the Total Bid Sum), as prepared by the Bidder.
- N. The following documents are attached to and made a condition of this Bid:
- 1) Bid Security Form
  - 2) Certification Statement
  - 3) Non-Collusion Affidavit
  - 4) Contractor's Qualification Statement
  - 5) Unit Prices Form (if not included herein)



**CONCLUSION:**

Contractors are requested *not to bid* on this Contract if they cannot *adhere strictly* to the following requirements. In submitting this bid we agree:

1. To hold our bid open for a period of ninety (90) calendar days past the date for receipt of bids.
2. To submit a Bid Security in accordance with the attached form in the sum of 10% of the Bid Total which is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.
3. To complete, sign, and submit with the bid the attached Certification Statement certifying that we have not been and are presently not suspended, debarred or otherwise precluded by any Federal or State entity from the benefits which may result from obtaining this Contract.
4. To complete, sign, and submit with the bid the attached Non-Collusion Affidavit and the Contractor's Qualification Statement.
5. To enter into and execute a contract, if awarded on the basis of this bid, and to furnish performance and payment bonds in accordance with Instructions to Bidders and Supplementary Conditions.
6. To accomplish the work in accordance with the Contract Documents.

The Undersigned hereby acknowledges the receipt of the following Addenda to the Contract Documents.

Addendum No. 1 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 2 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 3 \_\_\_\_\_, dated \_\_\_\_\_.

*(Signatures)*

**Respectfully submitted by  
Authorized Signing Officer:**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Company Name and Address*

**If Partnership, list full names of all partners**

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

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

**If Corporation, affix Corporate Seal and list state of incorporation**

\_\_\_\_\_  
*State*

*(Affix Seal)*

END OF SECTION 004113.1

SECTION 004113.2 – FIRE PROTECTION BID FORM

**NAME OF PROJECT:** WYOMISSING PUBLIC WORKS FACILITY

**ADDRESS OF PROJECT:** WYOMISSING BOROUGH, BERKS COUNTY, PA

**OWNER:** Wyomissing Borough  
22 Reading Boulevard  
Wyomissing, PA 19610  
ATTN: Jim Babb

**BASE BID**

In compliance with the Project Manual, the undersigned, having carefully examined the Bidding Documents and having had the opportunity to visit the site and examine all conditions affecting the work, proposes to do all such work, including the furnishing of all necessary labor, machinery, equipment, materials, supplies, transportation and incidentals as required by the Bidding Documents, for the stipulated sum of:

**Total Bid Sum:**

<i>Sum expressed in words</i>	Dollars	\$
<i>Sum expressed in words (continued)</i>		<i>Sum expressed in figures</i>

**SCHEDULE**

If awarded a contract for the work described by the Contract Documents, the undersigned will complete the work, without exception, in the following number of calendar days from the time of issuance of the Notice to Proceed:

<b>Total Number of <u>Calendar</u> Days to Complete the Work</b>	<b>470</b>	<b>Days</b>
<b>Earliest Start Date</b>	September 18, 2023	
<b>Estimated Date of Completion</b>	December 31, 2024	

**SCHEDULE OF VALUES:**

**BASE BID**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Project Subtotal Includes bonding, insurance, Mobilization, etc.	1	LS	\$ _____	\$ _____

<b>BASE BID SUBTOTAL</b>	\$ _____
Performance Bond	\$ _____
Payment Bond	\$ _____
Maintenance Bond	\$ _____
<b>TOTAL AMOUNT OF BID</b>	\$ _____

**GOOD FAITH:**

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

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Document, and the following Addenda, receipt of all which is hereby acknowledged.

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

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and test of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities).
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- 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 correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents inclusive of the General Conditions.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder further represents that this Bid is genuine and not in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- L. Bidder acknowledges that the Borough of Wyomissing may delete all or a portion of the project, in one or more instances, in its sole discretion, which it deems appropriate. In such instance, the Borough of Wyomissing and the CONTRACTOR will deduct from the Contract price an amount equal to the value of the Work to be deducted including overhead and profit. If the parties do not agree as to the dollar amount of the deduction, the ENGINEER will render a decision which will be final and binding upon both parties
- M. The Bidder agrees to progress payments in accordance with the General Conditions and the Supplementary Conditions at such unit values as indicated herein (the total of the unit values and quantities being equal to the Total Bid Sum), as prepared by the Bidder.
- N. The following documents are attached to and made a condition of this Bid:
- 1) Bid Security Form
  - 2) Certification Statement
  - 3) Non-Collusion Affidavit
  - 4) Contractor's Qualification Statement
  - 5) Unit Prices Form (if not included herein)

**CONCLUSION:**

Contractors are requested *not to bid* on this Contract if they cannot *adhere strictly* to the following requirements. In submitting this bid we agree:

1. To hold our bid open for a period of ninety (90) calendar days past the date for receipt of bids.
2. To submit a Bid Security in accordance with the attached form in the sum of 10% of the Bid Total which is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.
3. To complete, sign, and submit with the bid the attached Certification Statement certifying that we have not been and are presently not suspended, debarred or otherwise precluded by any Federal or State entity from the benefits which may result from obtaining this Contract.
4. To complete, sign, and submit with the bid the attached Non-Collusion Affidavit and the Contractor's Qualification Statement.
5. To enter into and execute a contract, if awarded on the basis of this bid, and to furnish performance and payment bonds in accordance with Instructions to Bidders and Supplementary Conditions.
6. To accomplish the work in accordance with the Contract Documents.

The Undersigned hereby acknowledges the receipt of the following Addenda to the Contract Documents.

Addendum No. 1 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 2 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 3 \_\_\_\_\_, dated \_\_\_\_\_.

*(Signatures)*

**Respectfully submitted by  
Authorized Signing Officer:**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Company Name and Address*

**If Partnership, list full names of all partners**

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

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

**If Corporation, affix Corporate Seal and list state of incorporation**

\_\_\_\_\_  
*State*

*(Affix Seal)*

END OF SECTION 004113.3

SECTION 004113.3 – PLUMBING BID FORM

**NAME OF PROJECT:** WYOMISSING PUBLIC WORKS FACILITY

**ADDRESS OF PROJECT:** WYOMISSING BOROUGH, BERKS COUNTY, PA

**OWNER:** Wyomissing Borough  
22 Reading Boulevard  
Wyomissing, PA 19610  
ATTN: Jim Babb

**BASE BID**

In compliance with the Project Manual, the undersigned, having carefully examined the Bidding Documents and having had the opportunity to visit the site and examine all conditions affecting the work, proposes to do all such work, including the furnishing of all necessary labor, machinery, equipment, materials, supplies, transportation and incidentals as required by the Bidding Documents, for the stipulated sum of:

**Total Bid Sum:**

---

<i>Sum expressed in words</i>	Dollars	\$
<i>Sum expressed in words (continued)</i>		<i>Sum expressed in figures</i>

**SCHEDULE**

If awarded a contract for the work described by the Contract Documents, the undersigned will complete the work, without exception, in the following number of calendar days from the time of issuance of the Notice to Proceed:

<b>Total Number of <u>Calendar</u> Days to Complete the Work</b>	<b>470</b>	<b>Days</b>
<b>Earliest Start Date</b>	September 18, 2023	
<b>Estimated Date of Completion</b>	December 31, 2024	

**SCHEDULE OF VALUES:**

**BASE BID**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Project Subtotal Includes bonding, insurance, Mobilization, etc.	1	LS	\$ _____	\$ _____



<b>BASE BID SUBTOTAL</b>	<b>\$ _____</b>
Performance Bond	\$ _____
Payment Bond	\$ _____
Maintenance Bond	\$ _____
<b>TOTAL AMOUNT OF BID</b>	<b>\$ _____</b>

**GOOD FAITH:**

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

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Document, and the following Addenda, receipt of all which is hereby acknowledged.

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

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and test of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities).
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- 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 correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents inclusive of the General Conditions.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder further represents that this Bid is genuine and not in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- L. Bidder acknowledges that the Borough of Wyomissing may delete all or a portion of the project, in one or more instances, in its sole discretion, which it deems appropriate. In such instance, the Borough of Wyomissing and the CONTRACTOR will deduct from the Contract price an amount equal to the value of the Work to be deducted including overhead and profit. If the parties do not agree as to the dollar amount of the deduction, the ENGINEER will render a decision which will be final and binding upon both parties
- M. The Bidder agrees to progress payments in accordance with the General Conditions and the Supplementary Conditions at such unit values as indicated herein (the total of the unit values and quantities being equal to the Total Bid Sum), as prepared by the Bidder.
- N. The following documents are attached to and made a condition of this Bid:
- 1) Bid Security Form
  - 2) Certification Statement
  - 3) Non-Collusion Affidavit
  - 4) Contractor's Qualification Statement
  - 5) Unit Prices Form (if not included herein)

**CONCLUSION:**

Contractors are requested *not to bid* on this Contract if they cannot *adhere strictly* to the following requirements. In submitting this bid we agree:

1. To hold our bid open for a period of ninety (90) calendar days past the date for receipt of bids.
2. To submit a Bid Security in accordance with the attached form in the sum of 10% of the Bid Total which is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.
3. To complete, sign, and submit with the bid the attached Certification Statement certifying that we have not been and are presently not suspended, debarred or otherwise precluded by any Federal or State entity from the benefits which may result from obtaining this Contract.
4. To complete, sign, and submit with the bid the attached Non-Collusion Affidavit and the Contractor's Qualification Statement.
5. To enter into and execute a contract, if awarded on the basis of this bid, and to furnish performance and payment bonds in accordance with Instructions to Bidders and Supplementary Conditions.
6. To accomplish the work in accordance with the Contract Documents.

The Undersigned hereby acknowledges the receipt of the following Addenda to the Contract Documents.

Addendum No. 1 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 2 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 3 \_\_\_\_\_, dated \_\_\_\_\_.

*(Signatures)*

**Respectfully submitted by  
Authorized Signing Officer:**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Company Name and Address*

**If Partnership, list full names of all partners**

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

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

**If Corporation, affix Corporate Seal and list state of incorporation**

\_\_\_\_\_  
*State*

*(Affix Seal)*

END OF SECTION 004113.4

SECTION 004113.4 – HVAC BID FORM

**NAME OF PROJECT:** WYOMISSING PUBLIC WORKS FACILITY

**ADDRESS OF PROJECT:** WYOMISSING BOROUGH, BERKS COUNTY, PA

**OWNER:** Wyomissing Borough  
22 Reading Boulevard  
Wyomissing, PA 19610  
ATTN: Jim Babb

**BASE BID**

In compliance with the Project Manual, the undersigned, having carefully examined the Bidding Documents and having had the opportunity to visit the site and examine all conditions affecting the work, proposes to do all such work, including the furnishing of all necessary labor, machinery, equipment, materials, supplies, transportation and incidentals as required by the Bidding Documents, for the stipulated sum of:

**Total Bid Sum:**

---

<i>Sum expressed in words</i>	Dollars	\$
<i>Sum expressed in words (continued)</i>		<i>Sum expressed in figures</i>

**SCHEDULE**

If awarded a contract for the work described by the Contract Documents, the undersigned will complete the work, without exception, in the following number of calendar days from the time of issuance of the Notice to Proceed:

<b>Total Number of <u>Calendar</u> Days to Complete the Work</b>	<b>470</b>	<b>Days</b>
<b>Earliest Start Date</b>	September 18, 2023	
<b>Estimated Date of Completion</b>	December 31, 2024	

**SCHEDULE OF VALUES:**

**BASE BID**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Project Subtotal Includes bonding, insurance, Mobilization, etc.	1	LS	\$ _____	\$ _____

<b>BASE BID SUBTOTAL</b>	\$ _____
Performance Bond	\$ _____
Payment Bond	\$ _____
Maintenance Bond	\$ _____
<b>TOTAL AMOUNT OF BID</b>	\$ _____

**GOOD FAITH:**

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

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Document, and the following Addenda, receipt of all which is hereby acknowledged.

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

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and test of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities).
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- 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 correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents inclusive of the General Conditions.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder further represents that this Bid is genuine and not in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- L. Bidder acknowledges that the Borough of Wyomissing may delete all or a portion of the project, in one or more instances, in its sole discretion, which it deems appropriate. In such instance, the Borough of Wyomissing and the CONTRACTOR will deduct from the Contract price an amount equal to the value of the Work to be deducted including overhead and profit. If the parties do not agree as to the dollar amount of the deduction, the ENGINEER will render a decision which will be final and binding upon both parties
- M. The Bidder agrees to progress payments in accordance with the General Conditions and the Supplementary Conditions at such unit values as indicated herein (the total of the unit values and quantities being equal to the Total Bid Sum), as prepared by the Bidder.
- N. The following documents are attached to and made a condition of this Bid:
- 1) Bid Security Form
  - 2) Certification Statement
  - 3) Non-Collusion Affidavit
  - 4) Contractor's Qualification Statement
  - 5) Unit Prices Form (if not included herein)

**CONCLUSION:**

Contractors are requested *not to bid* on this Contract if they cannot *adhere strictly* to the following requirements. In submitting this bid we agree:

1. To hold our bid open for a period of ninety (90) calendar days past the date for receipt of bids.
2. To submit a Bid Security in accordance with the attached form in the sum of 10% of the Bid Total which is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.
3. To complete, sign, and submit with the bid the attached Certification Statement certifying that we have not been and are presently not suspended, debarred or otherwise precluded by any Federal or State entity from the benefits which may result from obtaining this Contract.
4. To complete, sign, and submit with the bid the attached Non-Collusion Affidavit and the Contractor's Qualification Statement.
5. To enter into and execute a contract, if awarded on the basis of this bid, and to furnish performance and payment bonds in accordance with Instructions to Bidders and Supplementary Conditions.
6. To accomplish the work in accordance with the Contract Documents.

The Undersigned hereby acknowledges the receipt of the following Addenda to the Contract Documents.



Addendum No. 1 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 2 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 3 \_\_\_\_\_, dated \_\_\_\_\_.

*(Signatures)*

**Respectfully submitted by  
Authorized Signing Officer:**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Company Name and Address*

**If Partnership, list full names of all partners**

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

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

**If Corporation, affix Corporate Seal and list state of incorporation**

\_\_\_\_\_  
*State*

*(Affix Seal)*

END OF SECTION 004113.5

SECTION 004113.5 – ELECTRICAL BID FORM

**NAME OF PROJECT:** WYOMISSING PUBLIC WORKS FACILITY

**ADDRESS OF PROJECT:** WYOMISSING BOROUGH, BERKS COUNTY, PA

**OWNER:** Wyomissing Borough  
22 Reading Boulevard  
Wyomissing, PA 19610  
ATTN: Jim Babb

**BASE BID**

In compliance with the Project Manual, the undersigned, having carefully examined the Bidding Documents and having had the opportunity to visit the site and examine all conditions affecting the work, proposes to do all such work, including the furnishing of all necessary labor, machinery, equipment, materials, supplies, transportation and incidentals as required by the Bidding Documents, for the stipulated sum of:

**Total Bid Sum:**

---

<i>Sum expressed in words</i>	Dollars	\$
<i>Sum expressed in words (continued)</i>		<i>Sum expressed in figures</i>

**SCHEDULE**

If awarded a contract for the work described by the Contract Documents, the undersigned will complete the work, without exception, in the following number of calendar days from the time of issuance of the Notice to Proceed:

<b>Total Number of <u>Calendar</u> Days to Complete the Work</b>	<b>470</b>	<b>Days</b>
<b>Earliest Start Date</b>	September 18, 2023	
<b>Estimated Date of Completion</b>	December 31, 2024	

**SCHEDULE OF VALUES:**

**BASE BID**

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>EST. QTY.</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
1.	Project Subtotal Includes bonding, insurance, Mobilization, etc.	1	LS	\$ _____	\$ _____

<b>BASE BID SUBTOTAL</b>	\$ _____
Performance Bond	\$ _____
Payment Bond	\$ _____
Maintenance Bond	\$ _____
<b>TOTAL AMOUNT OF BID</b>	\$ _____

**GOOD FAITH:**

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

- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Document, and the following Addenda, receipt of all which is hereby acknowledged.

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

- B. Bidder has visited the Site 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. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and test of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities).
- E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

- 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 correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents inclusive of the General Conditions.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder further represents that this Bid is genuine and not in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
- L. Bidder acknowledges that the Borough of Wyomissing may delete all or a portion of the project, in one or more instances, in its sole discretion, which it deems appropriate. In such instance, the Borough of Wyomissing and the CONTRACTOR will deduct from the Contract price an amount equal to the value of the Work to be deducted including overhead and profit. If the parties do not agree as to the dollar amount of the deduction, the ENGINEER will render a decision which will be final and binding upon both parties
- M. The Bidder agrees to progress payments in accordance with the General Conditions and the Supplementary Conditions at such unit values as indicated herein (the total of the unit values and quantities being equal to the Total Bid Sum), as prepared by the Bidder.
- N. The following documents are attached to and made a condition of this Bid:
- 1) Bid Security Form
  - 2) Certification Statement
  - 3) Non-Collusion Affidavit
  - 4) Contractor's Qualification Statement
  - 5) Unit Prices Form (if not included herein)

**CONCLUSION:**

Contractors are requested *not to bid* on this Contract if they cannot *adhere strictly* to the following requirements. In submitting this bid we agree:

1. To hold our bid open for a period of ninety (90) calendar days past the date for receipt of bids.
2. To submit a Bid Security in accordance with the attached form in the sum of 10% of the Bid Total which is to become the property of the Owner in the event the Contract and Bond are not executed within the time above set forth as liquidated damages for the delay and additional expense to the Owner caused thereby.
3. To complete, sign, and submit with the bid the attached Certification Statement certifying that we have not been and are presently not suspended, debarred or otherwise precluded by any Federal or State entity from the benefits which may result from obtaining this Contract.
4. To complete, sign, and submit with the bid the attached Non-Collusion Affidavit and the Contractor's Qualification Statement.
5. To enter into and execute a contract, if awarded on the basis of this bid, and to furnish performance and payment bonds in accordance with Instructions to Bidders and Supplementary Conditions.
6. To accomplish the work in accordance with the Contract Documents.

The Undersigned hereby acknowledges the receipt of the following Addenda to the Contract Documents.

Addendum No. 1 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 2 \_\_\_\_\_, dated \_\_\_\_\_.

Addendum No. 3 \_\_\_\_\_, dated \_\_\_\_\_.

*(Signatures)*

**Respectfully submitted by  
Authorized Signing Officer:**

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed Name*

\_\_\_\_\_  
*Title*

\_\_\_\_\_  
*Company Name and Address*

**If Partnership, list full names of all partners**

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

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

**If Corporation, affix Corporate Seal and list state of incorporation**

\_\_\_\_\_  
*State*

*(Affix Seal)*

END OF SECTION 004113.6

## SECTION 012000 - PRICE AND PAYMENT PROCEDURES

## PART 1 - GENERAL

## 1.1 SECTION INCLUDES

- A. Cash allowances.
- B. Contingency allowances.
- C. Testing and inspection allowances.
- D. Schedule of Values.
- E. Application for Payment.
- F. Change procedures.
- G. Defect assessment.
- H. Unit prices.
- I. Alternates.

## 1.2 CASH ALLOWANCES

- A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to Site and applicable taxes unless stated otherwise in Allowance Schedule.
- B. Costs Not Included in Cash Allowances but Included in Contract Sum/Price: Product handling at Site including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing unless stated otherwise in Allowance Schedule.
- C. Engineer Responsibilities:
  - 1. Consult with Contractor for consideration and selection of products installers.
  - 2. Select products in consultation with Owner and transmit decision to Contractor.
  - 3. Prepare Change Order.
- D. Contractor Responsibilities:
  - 1. Assist Engineer in selection of products, and suppliers.
  - 2. Obtain proposals from suppliers and offer recommendations.
  - 3. Upon notification of selection by Engineer, execute purchase agreement with designated supplier.

4. Arrange for and process Shop Drawings, Product Data, and Samples. Arrange for delivery.
  5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.
- E. Differences in costs will be adjusted by Change Order.

### ~~1.3 CONTINGENCY ALLOWANCES~~

- A. ~~Include in Contract a stipulated sum/price for use upon Owner's instruction as a contingency allowance.~~
- B. ~~Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.~~
- C. ~~Funds will be drawn from contingency allowance only by Change Order.~~
- D. ~~At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.~~

### ~~1.4 TESTING AND INSPECTION ALLOWANCES~~

- A. ~~Costs Included in Testing and Inspecting Allowances:~~
- ~~1. Cost of engaging testing and inspecting agency.~~
  - ~~2. Execution of tests and inspecting.~~
  - ~~3. Reporting results.~~
- B. ~~Costs Not Included in Testing and Inspecting Allowance but Included in Contract Sum/Price:~~
- ~~1. Costs of incidental labor and facilities required to assist testing or inspecting agency.~~
  - ~~2. Costs of testing services used by Contractor separate from Contract Document requirements.~~
  - ~~3. Costs of retesting upon failure of previous tests as determined by Engineer.~~
- C. ~~Payment Procedures:~~
- ~~1. Submit one copy of inspecting or testing firm's invoice with next Application for Payment.~~
  - ~~2. Pay invoice upon approval by Engineer.~~
- D. ~~Testing and Inspecting Allowance Schedule:~~
- E. ~~Differences in cost will be adjusted by Change Order.~~

### 1.5 SCHEDULE OF VALUES

- A. Submit printed schedule Contractor's standard form.



- B. Submit Schedule of Prices in duplicate within 15 days after date of Owner-Contractor Agreement.
- C. Include in each line item amount of allowances as specified in this Section. For unit cost allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.
- D. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

#### 1.6 APPLICATION FOR PAYMENT

- A. Submit two (2) copies of each Application for Payment.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 013300 - Submittal Procedures.
- F. Submit three copies of waivers requested by Owner.
- G. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
  - 1. Affidavits attesting to off-Site stored products, if any.
  - 2. Construction Progress Schedule, revised and current as specified in Section 013300 - Submittal Procedures.

#### 1.7 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Engineer; establish procedures for handling queries and clarifications.
- D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions.

- E. Engineer may issue Proposal Request or Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change.
- F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation.
- G. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's estimated price quotation or Contractor's request for Change Order as approved by Engineer.
- H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for the Change Order.
- I. Construction Change Directive: Engineer may issue directive, signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- J. Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- K. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
- L. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- M. Change Order Forms: Contractor's standard Change Order Form.
- N. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- O. Correlation of Contractor Submittals:
  - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
  - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
  - 3. Promptly enter changes in Record Documents.

## 1.8 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.

- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be at discretion of Engineer and Owner.
- D. Defective Work will be partially repaired according to instructions of Engineer, and unit sum/price will be at discretion of Engineer.
- E. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- F. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.
- G. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from transporting vehicle.
  - 4. Products placed beyond lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.
  - 6. Loading, hauling, and disposing of rejected products.

#### 1.9 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual Specification Sections.
- B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.
- C. Take measurements and compute quantities. Engineer will verify measurements and quantities.
- D. Unit Quantities: Quantities and measurements indicated on **Bid Form** are for Contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment.
  - 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
- E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work. These adjustments compared to the contracted (bid) price shall be reflected in a Final Price Change Order for record-keeping purposes of the OWNER by the Contractor.
- G. Measurement of Quantities:

1. Measurement by Area: Measured by square dimension using mean length and width or radius.
2. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
3. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012000

## SECTION 312000 - EARTH MOVING

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Preparing subgrades for slabs-on-grade, pavements and lawns and grasses.
  - 2. Excavating and backfilling for buildings and structures.
  - 3. Drainage course for slabs-on-grade.
  - 4. Subbase and base course for asphalt paving.
  - 5. Subsurface drainage backfill for walls and trenches.
  - 6. Excavating and backfilling for utility trenches.
  - 7. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
- B. Related Sections include the following:
  - 1. Division 01 Section "Unit Prices" for authorized additional excavation provisions.
  - 2. Division 01 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
  - 3. Division 31 Section "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

## 1.3 UNIT PRICES

- A. Rock Measurement: Volume of rock actually removed, measured in original position, but not to exceed the following. Unit prices for rock excavation include replacement with approved materials.
  - 1. 12 inches outside of concrete forms other than at footings.
  - 2. 12 inches outside of concrete forms at footings.
  - 3. 6 inches outside of minimum required dimensions of concrete cast against grade.
  - 4. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
  - 5. 6 inches beneath bottom of concrete slabs-on-grade.
  - 6. 6 inches beneath pipe in trenches, and the greater of 18 inches wider than pipe or 36 inches wide.

## 1.4 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Construction Manager. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  2. Bulk Excavation: Excavation more than 8 feet in width and more than 15 feet in length.
  3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Construction Manager. Unauthorized excavation, as well as remedial work directed by Construction Manager, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 3 cu. yds. for bulk excavation or 1 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- wide, maximum, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,090 lbf and stick-crowd force of not less than 18,650 lbf; measured according to SAE J-1179.
  2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp flywheel power and developing a minimum of 48,510-lbf breakout force with a general-purpose bare bucket; measured according to SAE J-732.

- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

### 1.5 SUBMITTALS

- A. Product Data: For the following:
  - 1. Each type of plastic warning tape.
  - 2. Geotextile.
  - 3. Controlled low-strength material, including design mixture.
- B. Samples: 12-by-12-inch Sample of subdrainage and separation geotextile.
- C. Blasting Plan: For record purposes upon approval.
- D. Seismic Survey Report: For record purposes; from seismic survey agency.
- E. Preexcavation Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

### 1.6 QUALITY ASSURANCE

- A. Blasting: Comply with applicable requirements in NFPA 495, "Explosive Materials Code," and prepare a blasting plan reporting the following:
  - 1. Types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that will prevent damage to site improvements and structures on Project site and adjacent properties.
  - 2. Seismographic monitoring during blasting operations.
- B. Seismic Survey Agency: An independent testing agency, acceptable to authorities having jurisdiction, experienced in seismic surveys and blasting procedures to perform the following services:
  - 1. Report types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that

will prevent damage to site improvements and structures on Project site and adjacent properties.

2. Seismographic monitoring during blasting operations.

- C. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

## 1.7 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Construction Manager and then only after arranging to provide temporary utility services according to requirements indicated.
  1. Notify Construction Manager not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Construction Manager's written permission.
  3. Contact utility-locator service for area where Project is located before excavating.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM, or a combination of these groups; free of rock or gravel larger than 4 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
  1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.



- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.
- I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 2.2 GEOTEXTILES

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Grab Tensile Strength: 157 lbf; ASTM D 4632.
  - 3. Sewn Seam Strength: 142 lbf; ASTM D 4632.
  - 4. Tear Strength: 56 lbf; ASTM D 4533.
  - 5. Puncture Strength: 56 lbf; ASTM D 4833.
  - 6. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
  - 7. Permittivity: 0.5 per second, minimum; ASTM D 4491.
  - 8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.
- B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Grab Tensile Strength: 247 lbf; ASTM D 4632.
  - 3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
  - 4. Tear Strength: 90 lbf; ASTM D 4533.
  - 5. Puncture Strength: 90 lbf; ASTM D 4833.
  - 6. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
  - 7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
  - 8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## 2.3 CONTROLLED LOW-STRENGTH MATERIAL

- A. Controlled Low-Strength Material: Low-density, self-compacting, flowable concrete material as follows:
  - 1. Portland Cement: ASTM C 150, Type II.
  - 2. Fly Ash: ASTM C 618, Class C or F.
  - 3. Normal-Weight Aggregate: ASTM C 33, 3/4-inch nominal maximum aggregate size.
  - 4. Foaming Agent: ASTM C 869.
  - 5. Water: ASTM C 94/C 94M.
  - 6. Air-Entraining Admixture: ASTM C 260.
- B. Produce conventional-weight, controlled low-strength material with 140-psi compressive strength when tested according to ASTM C 495.

## 2.4 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored as follows:
- B. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
  - 1. Red: Electric.
  - 2. Yellow: Gas, oil, steam, and dangerous materials.
  - 3. Orange: Telephone and other communications.
  - 4. Blue: Water systems.
  - 5. Green: Sewer systems.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 31 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 31 Section "Site Clearing," during earthwork operations.

- D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

### 3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system, specified in Division 31 Section "Dewatering," to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

### 3.3 EXPLOSIVES

- A. Explosives: Obtain written permission from authorities having jurisdiction before bringing explosives to Project site or using explosives on Project site.
  - 1. Perform blasting without damaging adjacent structures, property, or site improvements.
  - 2. Perform blasting without weakening the bearing capacity of rock subgrade and with the least-practicable disturbance to rock to remain.
  - 3. Contractor is responsible for all damage caused by use of explosives.

### 3.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
  - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
    - a. 12 inches outside of concrete forms other than at footings.
    - b. 12 inches outside of concrete forms at footings.
    - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
    - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
    - e. 6 inches beneath bottom of concrete slabs-on-grade.

- f. 6 inches beneath pipe in trenches, and the greater of 18 inches wider than pipe or 36 inches wide.

### 3.5 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
  2. Pile Foundations: Stop excavations 6 to 12 inches above bottom of pile cap before piles are placed. After piles have been driven, remove loose and displaced material. Excavate to final grade, leaving solid base to receive concrete pile caps.
  3. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

### 3.6 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

### 3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
  1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
  1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.

2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
  3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trench Bottoms: Excavate trenches 4 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.
1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

### 3.8 SUBGRADE INSPECTION

- A. Notify Construction Manager when excavations have reached required subgrade.
- B. If Construction Manager determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
  2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
  3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Construction Manager, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Construction Manager, without additional compensation.

### 3.9 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Construction Manager.
  1. Fill unauthorized excavations under other construction or utility pipe as directed by Construction Manager.

## 3.10 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

## 3.11 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash and debris.
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

## 3.12 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Division 03 Section "Cast-in-Place Concrete."
- D. Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.
- E. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
  - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

- F. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches over the utility pipe or conduit.
- G. Backfill voids with satisfactory soil while installing and removing shoring and bracing.
- H. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- I. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.
- J. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

### 3.13 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.
  - 2. Under walks and pavements, use satisfactory soil material.
  - 3. Under steps and ramps, use engineered fill.
  - 4. Under building slabs, use engineered fill.
  - 5. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.14 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
  2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
  3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
  4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

### 3.16 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
1. Lawn or Unpaved Areas: Plus or minus 2 inches.
  2. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

### 3.17 SUBSURFACE DRAINAGE

- A. Subdrainage Pipe: Specified in Division 33 Section "Subdrainage."
- B. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.
1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D 698.
- C. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with 1 layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.



1. Compact each filter material layer to 85 percent of maximum dry unit weight according to ASTM D 698.
2. Place and compact impervious fill over drainage backfill in 6-inch- thick compacted layers to final subgrade.

### 3.18 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase and base course under pavements and walks as follows:
  1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
  2. Place base course material over subbase course under hot-mix asphalt pavement.
  3. Shape subbase and base course to required crown elevations and cross-slope grades.
  4. Place subbase and base course 6 inches or less in compacted thickness in a single layer.
  5. Place subbase and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  6. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

### 3.19 DRAINAGE COURSE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  1. Install subdrainage geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
  2. Place drainage course 6 inches or less in compacted thickness in a single layer.
  3. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  4. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

### 3.20 FIELD QUALITY CONTROL

- A. Construction Manager reserves the right to stop work and have a testing agency test the placed materials to ensure conformance.

- B. If the materials do not meet the specification criteria, the contractor shall be responsible for testing costs, removing affected materials and replacing suitable materials at no cost to the owner.

3.21 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Construction Manager; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 312000