

SPECIFICATIONS AND CONTRACT DOCUMENTS  
FOR  
TALAHI PARKING LOT IMPROVEMENTS 2026  
ST. CLOUD, MINNESOTA  
JANUARY 2026



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ST. CECILIA AREA SCHOOL DISTRICT / 12

Owner

A horizontal number line with arrows at both ends. It is marked with integers from 0 to 10. A point is marked with a dot at the number 5, and another point is marked with a dot at the number 8. A horizontal line segment connects these two points, and below it, the text "3 units" is written.

Project Title

02724004

Project No.

### Project Start-End Dates

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\_\_\_\_\_

14333

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Date \_\_\_\_\_

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16104

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Date \_\_\_\_\_

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### Talahi Parking Lot Improvements 2026

NOTICE IS HEREBY GIVEN that sealed bids will be received by Design Tree Engineering on behalf of the St. Cloud Area School District until 10:00 AM, February 10, 2026 at the District Administration Office of the St. Cloud Area School District, 1201 2<sup>nd</sup> Street S, Waite Park, MN 56387.

Miscellaneous Removals, Grading, Aggregate Base, Bituminous Pavement, Concrete Curb, Concrete Sidewalks, Storm Sewer, Lighting, Erosion Control and Turf Establishment.

Digital copies of the Bidding Documents are available at [www.dte-ls.com](http://www.dte-ls.com) for a fee of \$50. These documents may be downloaded by selecting this project from the BIDDING DOCUMENTS link or through QuestCDN and by entering bid document No. 9986185 on the SEARCH PROJECTS page.

Proposals, specifications, plans and other contract documents are available for review at the office of Design Tree Engineering, 120 17<sup>th</sup> Avenue W, Alexandria, MN 56308. Proposals, specifications, plans and other contract documents can be also purchased by mail, upon receipt of a non-refundable deposit of \$100 for each contract package through Design Tree Engineering.

Bids will only be accepted from Contractors who purchase Bidding Documents as specified above.

Bids must be accompanied by a certified check or bid bond made payable to the St. Cloud Area School District for at least five percent (5%) of the amount of the Proposal.

The Owner reserves the right to reject any and all bids, waive any informalities in bidding or to accept the bid or bids, which best serve the interests of the Owner. No bids may be withdrawn for a period of sixty (60) days from the date of opening the bids.

Dated: December 17, 2025

BY ORDER OF THE SCHOOL BOARD





# INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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## ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

## ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Owner has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Bidder may register as a plan holder and obtain complete sets of Bidding Documents, in the number and format stated in the Advertisement or invitation to bid, from the Issuing Office. Bidders may rely that sets of Bidding Documents obtained from the Issuing Office are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.05 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.06 *Electronic Documents*
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf). It is the intent of the Engineer and Owner that such Electronic Documents are to be

exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.
- C. After the Contract is awarded, the Owner will provide or direct the Engineer to provide for the use of the Contractor documents that were developed by Engineer as part of the Project design process, as Electronic Documents in native file formats.
  - 1. Electronic Documents that are available in native file format include:
  - 2. Release of such documents will be solely for the convenience of the Contractor. No such document is a Contract Document.
  - 3. Unless the Contract Documents explicitly identify that such information will be available to the Successful Bidder (Contractor), nothing herein will create an obligation on the part of the Owner or Engineer to provide or create such information, and the Contractor is not entitled to rely on the availability of such information in the preparation of its Bid or pricing of the Work. In all cases, the Contractor shall take appropriate measures to verify that any electronic/digital information provided in Electronic Documents is appropriate and adequate for the Contractor's specific purposes.
  - 4. In no case will the Contractor be entitled to additional compensation or time for completion due to any differences between the actual Contract Documents and any related document in native file format.

### **ARTICLE 3—QUALIFICATIONS OF BIDDERS**

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
  - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
  - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
  - C. Bidder's state or other contractor license number, if applicable.
  - D. Subcontractor information.
  - E. Responsible Contractor Forms.

- F. 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.

#### **ARTICLE 4—PRE-BID CONFERENCE**

- 4.01 A pre-bid conference will not be conducted for this Project.

#### **ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE**

##### **5.01 *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.

##### **5.02 *Existing Site Conditions***

###### **A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions***

1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
  - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
  - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
  - 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.

4. *Geotechnical Baseline Report/Geotechnical Data Report:* The Bidding Documents contain a Geotechnical Baseline Report (GBR) and Geotechnical Data Report (GDR).
    - a. As set forth in the Supplementary Conditions, the GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Baseline Conditions"). The GBR is a Contract Document.
    - b. The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.
    - c. Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.
    - d. As set forth in the Supplementary Conditions, the GDR is a Contract Document containing data prepared by or for the Owner in support of the GBR.
  - B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- 5.03 *Other Site-related Documents*
- A. No other Site-related documents are available.
- 5.04 *Site Visit and Testing by Bidders*
- A. Bidder is encouraged to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
  - B. Bidders visiting the Site are required to arrange their own transportation to the Site.
  - C. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the Owner or Engineer. Bidder must conduct the required Site visit during normal working hours.
  - D. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
  - E. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general 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. Bidder is responsible for establishing access needed to reach specific selected test sites.

- F. Bidder must 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.
- G. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

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

5.06 *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 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS**

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

**ARTICLE 7—INTERPRETATIONS AND ADDENDA**

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information and submittal procedures for such questions are as follows:
  - A. Design Tree Engineering, Inc  
c/o Jeremy Anderson  
120 17<sup>th</sup> Avenue W  
Alexandria, MN 56308

- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

## **ARTICLE 8—BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **5** percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 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, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will 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 7 days after the Effective Date of the Contract or 61 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 7 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 (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

## **ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS**

- 10.01 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.

- 10.02 All prices that Bidder sets forth in its Bid will 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 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

- 11.01 A Bidder must be prepared to retain specific Subcontractors and Suppliers for the performance of the Work if required to do so by the Bidding Documents or in the Specifications. If a prospective Bidder objects to retaining any such Subcontractor or Supplier and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 11.02 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed.
- 11.03 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will 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.
- 11.04 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 and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, 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 7.07 of the General Conditions.

#### **ARTICLE 12—PREPARATION OF BID**

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must 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.”
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the



Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

- 12.03 A Bid by a corporation must 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 must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must 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 must be shown.
- 12.06 A Bid by an individual must show the Bidder's name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

## **ARTICLE 13—BASIS OF BID**

### **13.01 *Lump Sum***

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

### **13.02 *Base Bid with Alternates***

- A. Bidders must 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.

### 13.03 Allowances

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

## ARTICLE 14—SUBMITTAL OF BID

- 14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to St. Cloud Area School District 742.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

## ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened 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.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 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, the Bidder may withdraw its Bid,

and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

#### **ARTICLE 16—OPENING OF BIDS**

- 16.01 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 Bid Award.

#### **ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

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

#### **ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT**

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 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, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 18.05 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether 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. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form.
  - C. In Sectional Bids, the comparison of Bids and determination of the Successful Bidder will be based on the Total Bid and not the amount bid per section. The entire contract will be awarded to one (1) successful bidder regardless of sectional bids submitted.
  - D. 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.

- E. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 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.
- 18.07 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 19—BONDS AND INSURANCE**

- 19.01 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, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

#### **ARTICLE 20—SIGNING OF AGREEMENT**

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

# BID FORM FOR CONSTRUCTION CONTRACT

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

## ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: **St. Cloud Area School District 742**
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

## ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
  - B. List of Proposed Subcontractors;
  - C. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
  - D. Responsible Contractor Forms.

## ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

- 3.01 *Lump Sum Bids*
- A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02:
    - 1. Lump Sum Price (Base Bid)

Lump Sum Base Bid Price	\$
-------------------------	----

## ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder agrees that the Work will be substantially complete on or before **August 14, 2026**, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **August 21, 2026**.
- 4.03 Bidder accepts the provisions of the Agreement as to liquidated damages.

**ARTICLE 5—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**

**5.01   *Bid Acceptance Period***

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**5.02   *Instructions to Bidders***

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

**5.03   *Receipt of Addenda***

- A. Bidder hereby acknowledges receipt of the following Addenda:

<b>Addendum Number</b>	<b>Addendum Date</b>

**ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS**

**6.01   *Bidder’s Representations***

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
  2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
  4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
  5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
  6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and

procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. 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.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### 6.02 *Bidder's Certifications*

##### A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
  - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
  - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

\_\_\_\_\_  
*(typed or printed name of organization)*

By:

\_\_\_\_\_  
*(individual's signature)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Date:

\_\_\_\_\_  
*(typed or printed)*

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

Attest:

\_\_\_\_\_  
*(individual's signature)*

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Date:

\_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

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

Bidder's Contact:

Name:

\_\_\_\_\_  
*(typed or printed)*

Title:

\_\_\_\_\_  
*(typed or printed)*

Phone:

Email:

Address:

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

Bidder's Contractor License No.: (if applicable)

\_\_\_\_\_



## BID BOND (PENAL SUM FORM)

<b>Bidder</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: <b>St. Cloud Area School District 742</b> Address <i>(principal place of business)</i> : <b>1201 2<sup>nd</sup> St. S</b> <b>Waite Park, MN 56387</b>	<b>Bid</b> Project <i>(name and location)</i> : <b>St. Cloud Area School District 742</b> <b>Talahi Parking Lot Improvements 2026</b> <b>St. Cloud, MN 56387</b>  Bid Due Date:
<b>Bond</b> Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
_____ <i>(Full formal name of Bidder)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature) (Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

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

**ATTACHMENT A  
PRIME CONTRACTOR RESPONSE**

**RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE**

**STATE PROJECT NUMBER:** \_\_\_\_\_

**This form includes changes by statutory references from the Laws of Minnesota 2015, chapter 64, sections 1-9. This form must be submitted with the response to this solicitation. A response received without this form, will be rejected.**

<p>Minn. Stat. § 16C.285, Subd. 7. <b>IMPLEMENTATION.</b> ... any prime contractor or subcontractor or motor carrier that does not meet the minimum criteria in subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project...</p>	
<p>Minn. Stat. § 16C.285, Subd. 3. <b>RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA.</b> "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:</p>	
(1)	<p>The Contractor:</p> <ul style="list-style-type: none"><li>(i) is in compliance with workers' compensation and unemployment insurance requirements;</li><li>(ii) is in compliance with Department of Revenue and Department of Employment and Economic Development registration requirements if it has employees;</li><li>(iii) has a valid federal tax identification number or a valid Social Security number if an individual; and</li><li>(iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.</li></ul>
(2)	<p>The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:</p> <ul style="list-style-type: none"><li>(i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period, provided that a failure to pay is "repeated" only if it involves two or more separate and distinct occurrences of underpayment during the three-year period;</li><li>(ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final;</li><li>(iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;</li><li>(iv) has been found by the commissioner of Labor and Industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;</li><li>(v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or</li><li>(vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;*</li></ul>

(3)	The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order;*
(4)	The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;*
(5)	The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;*
	* Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.
(6)	The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions that have authority to debar a contractor; and
(7)	All subcontractors and motor carriers that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. § 16C.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.**

A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Prior to execution of a construction contract, and as a condition precedent to the execution of a construction contract, the apparent successful prime contractor shall submit to the contracting authority a supplemental verification under oath confirming compliance with subdivision 3, clause (7). Each contractor or subcontractor shall obtain from all subcontractors with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each subcontractor.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

**Subd. 5a. Motor carrier verification.** A prime contractor or subcontractor shall obtain annually from all motor carriers with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each motor carrier. A prime contractor or subcontractor shall require each such motor carrier to provide it with immediate written notification in the event that the motor carrier no longer meets one or more of the minimum criteria in subdivision 3 after submitting its annual verification. A motor carrier shall be ineligible to perform work on a project covered by this section if it does not meet all the minimum criteria in subdivision 3. Upon request, a prime contractor or subcontractor shall submit to the contracting authority the signed verifications of compliance from all motor carriers providing for-hire transportation of materials, equipment, or supplies for a project.

Minn. Stat. § 16C.285, Subd. 4. **VERIFICATION OF COMPLIANCE.**

A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3, with the exception of clause (7), at the time that it responds to the solicitation document.

A contracting authority may accept a signed statement under oath as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. A prime contractor, subcontractor, or motor carrier that fails to verify compliance with any one of the required minimum criteria or makes a false statement under oath in a verification of compliance shall be ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor or motor carrier that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor failed to verify compliance with the minimum criteria or falsely stated that it meets the minimum criteria. A verification of compliance need not be notarized. An electronic verification of compliance made and submitted as part of an electronic bid shall be an acceptable verification of compliance under this section provided that it contains an electronic signature as defined in section 325L.02, paragraph (h).

**CERTIFICATION**

**By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:**

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. § 16C.285, and**
- 2) if my company is awarded a contract, I will submit Attachment A-1 prior to contract execution, and**
- 3) if my company is awarded a contract, I will also submit Attachment A-2 as required.**

**Authorized Signature of Owner or Officer:**

**Printed Name:**

**Title:**

**Date:**

**Company Name:**

NOTE: Minn. Stat. § 16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.

**ATTACHMENT A-1**

**FIRST-TIER SUBCONTRACTORS LIST**

**SUBMIT PRIOR TO EXECUTION OF A CONSTRUCTION CONTRACT**

**STATE PROJECT NUMBER:** \_\_\_\_\_

Minn. Stat. § 16C.285, Subd. 5. A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Prior to execution of a construction contract, and as a condition precedent to the execution of a construction contract, the apparent successful prime contractor shall submit to the contracting authority a supplemental verification under oath confirming compliance with subdivision 3, clause (7). Each contractor or subcontractor shall obtain from all subcontractors with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each subcontractor.

<b>FIRST TIER SUBCONTRACTOR NAMES*</b> <b>(Legal name of company as registered with the Secretary of State)</b>	<b>Name of city where company home office is located</b>

\*Attach additional sheets as needed for submission of all first-tier subcontractors.

<b>SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-1</b>	
<b>By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:</b>  <b>All first-tier subcontractors listed on attachment A-1 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.</b>	
<b>Authorized Signature of Owner or Officer:</b>	<b>Printed Name:</b>
<b>Title:</b>	<b>Date:</b>
<b>Company Name:</b>	

**ATTACHMENT A-2**

**ADDITIONAL SUBCONTRACTORS LIST**

**PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT**

**STATE PROJECT NUMBER:** \_\_\_\_\_

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. § 16C.285, Subd. 5. ... If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors. ...

<b>ADDITIONAL SUBCONTRACTOR NAMES*</b> <b>(Legal name of company as registered with the Secretary of State)</b>	<b>Name of city where company home office is located</b>

\*Attach additional sheets as needed for submission of all additional subcontractors.

<b>SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2</b>	
<b>By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:</b> <b>All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.</b>	
<b>Authorized Signature of Owner or Officer:</b>	<b>Printed Name:</b>
<b>Title:</b>	<b>Date:</b>
<b>Company Name:</b>	





## NOTICE OF AWARD

Date of Issuance:

Owner: St. Cloud Area School District 742

Owner's Project No.:

Engineer: Design Tree Engineering, Inc.

Engineer's Project No.: 02724004

Project: **Talahi Parking Lot Improvements 2026**

Contract Name: **Talahi Parking Lot Improvements 2026**

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated \_\_\_\_\_ for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

### **Talahi Parking Lot Improvements 2026**

The Contract Price of the awarded Contract is \$\_\_\_\_\_ (\_\_\_\_ Dollars and \_\_\_\_ cents), which is the base bid amount. All alternates are rejected. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Lump Sum Work, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

Three (3) unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☒ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner three (3) counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): \_\_\_\_\_

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: **St. Cloud Area School District 742**

By (signature): \_\_\_\_\_

Name (printed): \_\_\_\_\_

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

Copy: Engineer



## PERFORMANCE BOND

<b>Contractor</b> Name: Address <i>(principal place of business)</i> :	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: <b>St. Cloud Area School District 742</b> Mailing address <i>(principal place of business)</i> : <b>1201 2<sup>nd</sup> St S</b> <b>Waite Park, MN 56387</b>	<b>Contract</b> Description <i>(name and location)</i> : <b>St. Cloud Area School District 742</b> <b>Talahi Parking Lot Improvements 2026</b> <b>St. Cloud, MN</b> Contract Price: Effective Date of Contract:
<b>Bond</b> Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
  - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
  - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
  - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
  - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
  - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
  - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
  - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
  - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
  - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
  - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
  - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
  - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
  - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
  - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
  - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **[Describe modification or enter “None”]**

## PAYMENT BOND

<b>Contractor</b> Name: Address <i>(principal place of business)</i> : <b>[Address of Contractor's principal place of business]</b>	<b>Surety</b> Name: Address <i>(principal place of business)</i> :
<b>Owner</b> Name: <b>St. Cloud Area School District 742</b> Mailing address <i>(principal place of business)</i> : <b>1201 2<sup>nd</sup> St S</b> <b>Waite Park, MN 56387</b>	<b>Contract</b> Description <i>(name and location)</i> : <b>St. Cloud Area School District 742</b> <b>Talahi Parking Lot Improvements 2026</b> <b>St. Cloud, MN</b> Contract Price: Effective Date of Contract:
<b>Bond</b> Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <div style="text-align: center;"><i>(Signature)</i></div>	By: _____ <div style="text-align: center;"><i>(Signature)(Attach Power of Attorney)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>	Attest: _____ <div style="text-align: center;"><i>(Signature)</i></div>
Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>	Name: _____ <div style="text-align: center;"><i>(Printed or typed)</i></div>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
  - 5.1. Claimants who do not have a direct contract with the Contractor
    - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
    - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
  - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
  - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
  - 7.2. Pay or arrange for payment of any undisputed amounts.
  - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.



8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
  - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
    - 16.1.1. The name of the Claimant;
    - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
    - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
    - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
  - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
  - 16.1.7. The total amount of previous payments received by the Claimant; and
  - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: **[Describe modification or enter "None"]**

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

This Agreement is by and between **St. Cloud Area School District 742** ("Owner") and \_\_\_\_\_ ("Contractor").

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

Owner and Contractor hereby agree as follows:

## ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: **Talahi Parking Lot Improvements 2026**

## ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Construction of Miscellaneous Removals, Grading, Aggregate Base, Bituminous Pavement, Concrete curb, concrete sidewalks, Underground drainage, Lighting, Erosion Control and Turf Establishment to remove and construct the south and east parking lots at Talahi Middle School in St. Cloud, Minnesota.**

## ARTICLE 3—ENGINEER

- 3.01 The Owner has retained Design Tree Engineering, Inc. ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by Design Tree Engineering, Inc.

## ARTICLE 4—CONTRACT TIMES

- 4.01 *Time is of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Dates*
- A. The Work will be substantially complete on or before **August 14, 2026**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **August 21, 2026**.
- B. The entire site will be available to the Contractor to begin work on June 8, 2026.

#### 4.04 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
  - 1. *Substantial Completion*: Contractor shall pay Owner \$1000 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
  - 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500 for each day that expires after such time until the Work is completed and ready for final payment.
  - 4. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

#### **ARTICLE 5—CONTRACT PRICE**

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:
  - A. For all Work, at the prices stated in Contractor's Bid, for a sum of \$\_\_ ( Dollars and Zero cents) as presented in the Bid attached hereto as an exhibit.

#### **ARTICLE 6—PAYMENT PROCEDURES**

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

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

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

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
    - a. 95 percent of the value of the Work completed (with the balance being retainage).
      - 1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
    - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
  - B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **95** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions.
- 6.03 *Final Payment*
- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.
- 6.04 *Consent of Surety*
- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.
- 6.05 *Interest*
- A. All amounts not paid when due will bear interest at the rate of 18 percent per annum.

## **ARTICLE 7—CONTRACT DOCUMENTS**

### **7.01 *Contents***

- A. The Contract Documents consist of all of the following:
  1. This Agreement.
  2. Bonds:
    - a. Performance bond (together with power of attorney).
    - b. Payment bond (together with power of attorney).
  3. General Conditions.
  4. Supplementary Conditions.
  5. Specifications as listed in the table of contents of the project manual (copy of list attached).
  6. Drawings (not attached but incorporated by reference) consisting of sheets with each sheet bearing the following general title: **Talahi Parking Lot Improvements 2026**

7. Addenda (numbers 0 to 0, inclusive).
8. Exhibits to this Agreement (enumerated as follows):
  - a. **Contractors Bid.**
9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
  - a. Notice to Proceed.
  - b. Work Change Directives.
  - c. Change Orders.
  - d. Field Orders.
  - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

## **ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS**

### **8.01 *Contractor's Representations***

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
  1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
  2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
  3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
  4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
  5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
  6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical

Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

#### 8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
  1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
  2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
  4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### 8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has

furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.



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

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

Owner:

St. Cloud Area School District 742

*(typed or printed name of organization)*

By:

*(individual's signature)*

Date:

*(date signed)*

Name:

*(typed or printed)*

Title:

*(typed or printed)*

Attest:

*(individual's signature)*

Title:

*(typed or printed)*

Address for giving notices:

1201 2<sup>nd</sup> St. S

Waite Park, MN 56387

Designated Representative:

Name: Amy Skaalerud

*(typed or printed)*

Title: Executive Director of Finance

*(typed or printed)*

Address:

1201 2<sup>nd</sup> St. S

Waite Park, MN 56387

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

Email: [Amy.skaalerud@isd742.org](mailto:Amy.skaalerud@isd742.org)

Contractor:

*(typed or printed name of organization)*

By:

*(individual's signature)*

Date:

*(date signed)*

Name:

*(typed or printed)*

Title:

*(typed or printed)*

*(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest:

*(individual's signature)*

Title:

*(typed or printed)*

Address for giving notices:

Designated Representative:

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

*(typed or printed)*

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

*(typed or printed)*

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

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

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

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

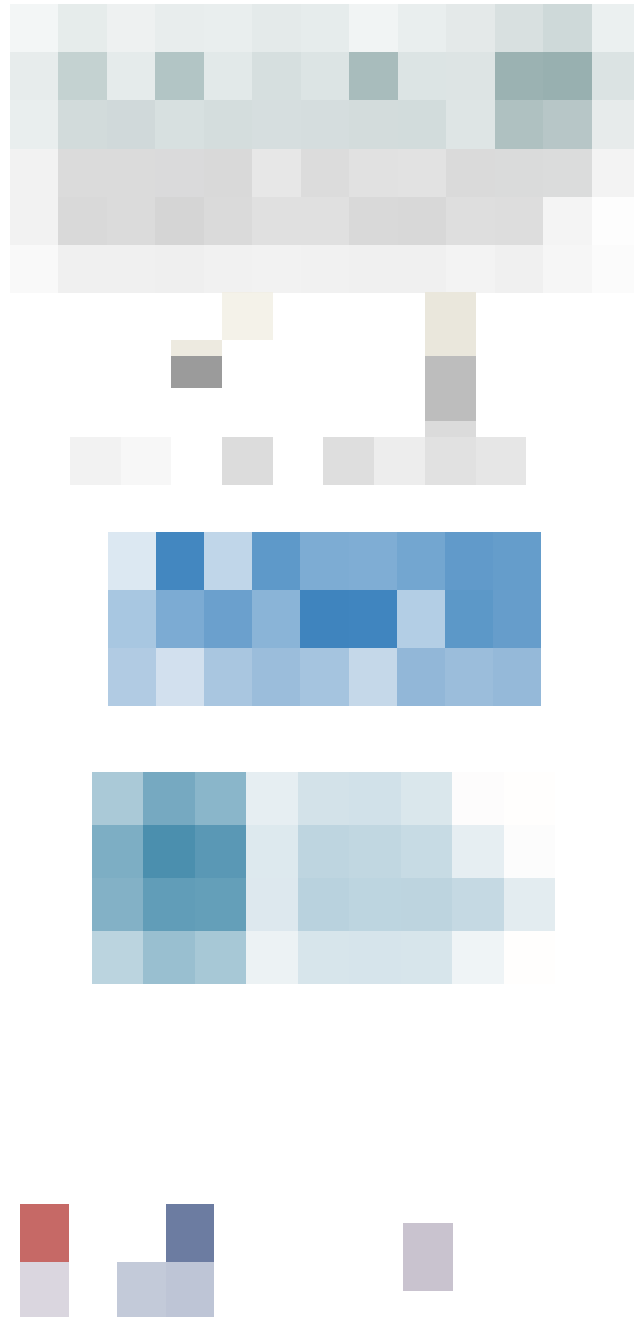
*(where applicable)*

State: \_\_\_\_\_



# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*
    - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
  - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
  - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
  - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
  - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
  - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
  - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
  - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
  - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
  - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
  - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
  - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
  - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
  - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
  - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
  - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
  - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
  - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
  - 1. does not conform to the Contract Documents;
  - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
  - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
  - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
  - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

## **ARTICLE 2—PRELIMINARY MATTERS**

### **2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance***

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

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

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  - 2. a preliminary Schedule of Submittals; and
  - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work



into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

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

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

## ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

### 3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
  - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
  - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

### 3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
  - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
  - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

### 3.03 *Reporting and Resolving Discrepancies*

#### A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

#### B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
  - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
  - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
  - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
  - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

## **ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

### 4.02 *Starting the Work*

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

### 4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

#### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
  - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

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

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
  - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
  - 2. Abnormal weather conditions;
  - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
  - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
  2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
  3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
  2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
  3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
  4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
  5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

## **ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS**

### **5.01 *Availability of Lands***

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

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

## 5.02 *Use of Site and Other Areas*

### A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
  - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

### 5.03 *Subsurface and Physical Conditions*

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
  2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
  3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
  4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.



#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
  2. is of such a nature as to require a change in the Drawings or Specifications;
  3. differs materially from that shown or indicated in the Contract Documents; or
  4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
  - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
  - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
    - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
    - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
  3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
  2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
  4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
  5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
  2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
  3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
  4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
  - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
  - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
  3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
  4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

#### 5.06 *Hazardous Environmental Conditions at Site*

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

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6—BONDS AND INSURANCE**

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

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

#### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
  - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
  - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.



- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
  - 1. include at least the specific coverages required;
  - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
  - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
  - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
  - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
  - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
  - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
  - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
  2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

**ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES**

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

#### 7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
    - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
      - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
  - 3) has a proven record of performance and availability of responsive service; and
  - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
  - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

#### 7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
  2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
  - a. will certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design;
    - 2) be similar in substance to the item specified; and
    - 3) be suited to the same use as the item specified.
  - b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
    - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from the item specified; and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.



- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

#### 7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

#### 7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.12 *Record Documents*

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

### 7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
  - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
  - b. determine and verify:
    - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
    - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
  - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
    - a. Contractor shall submit the number of copies required in the Specifications.
    - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
  2. *Samples*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
  3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
  2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

*D. Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

*E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
  - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
  - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
  - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

**7.17 Contractor's General Warranty and Guarantee**

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
  - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
  - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
  - 1. Observations by Engineer;
  - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
  - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  - 4. Use or occupancy of the Work or any part thereof by Owner;
  - 5. Any review and approval of a Shop Drawing or Sample submittal;
  - 6. The issuance of a notice of acceptability by Engineer;
  - 7. The end of the correction period established in Paragraph 15.08;
  - 8. Any inspection, test, or approval by others; or

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

**7.18 Indemnification**

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

**7.19 Delegation of Professional Design Services**

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.



- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
  - 1. Checking for conformance with the requirements of this Paragraph 7.19;
  - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
  - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

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

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

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

#### 8.02 *Coordination*

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

#### 8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
  - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
  - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

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

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

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

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

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

### **9.03    *Furnish Data***

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

### **9.04    *Pay When Due***

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

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

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

9.06 *Insurance*

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

9.07 *Change Orders*

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

9.08 *Inspections, Tests, and Approvals*

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

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

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

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

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

### **10.01 *Owner's Representative***

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

### **10.02 *Visits to Site***

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

### **10.03 *Resident Project Representative***

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

### **10.04 *Engineer's Authority***

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

**10.05 *Determinations for Unit Price Work***

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

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

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

**10.07 *Limitations on Engineer's Authority and Responsibilities***

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

**10.08 *Compliance with Safety Program***

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

## ARTICLE 11—CHANGES TO THE CONTRACT

### 11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

### 11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
  - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
  - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

### 11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
  - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
  - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

#### 11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

#### 11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:



1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
  2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
  3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
  2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
    - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
    - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
    - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
    - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

#### 11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

#### 11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.
- B. *Change Proposal Procedures*
  - 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
  - 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
    - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
    - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

#### 11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

### ARTICLE 12—CLAIMS

#### 12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
  1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
  2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
  3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
  4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
  - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
  - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
  - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

### **13.01 *Cost of the Work***

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
  2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
  3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
  4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
  5. Other costs consisting of the following:
    - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
    - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
  - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
  - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
  - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
  - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
  - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
  - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
  - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
  - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
  - 6. Expenses incurred in preparing and advancing Claims.
  - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
    - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
    - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
      - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
      - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
  - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

### 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
  2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

### 13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision



thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
  - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
  - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

**ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  3. by manufacturers of equipment furnished under the Contract Documents;
  4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

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

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

**14.07 Owner May Correct Defective Work**

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

**15.01 Progress Payments**

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
  - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
  - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

*C. Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
  - a. the Work has progressed to the point indicated;
  - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
  - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
  - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
  - a. to supervise, direct, or control the Work;
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
  - a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
  - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

**D. *Payment Becomes Due***

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

**E. *Reductions in Payment by Owner***

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. The Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. The Contract Price has been reduced by Change Orders;
  - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
  - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
  - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
  3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

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

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without



significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

#### 15.06 *Final Payment*

##### A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

#### 15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such adjacent areas;
  - 2. correct such defective Work;
  - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

### **16.01 *Owner May Suspend Work***

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

### **16.02 *Owner May Terminate for Cause***

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## **ARTICLE 17—FINAL RESOLUTION OF DISPUTES**

### **17.01 *Methods and Procedures***

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
  - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
  - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
  - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
  - 2. agree with the other party to submit the dispute to another dispute resolution process; or
  - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

## **ARTICLE 18—MISCELLANEOUS**

### **18.01 *Giving Notice***

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
  - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
  - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
  - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

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

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

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

18.10 *Headings*

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





# SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

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

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

## ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No Supplementary Conditions in this Article.

## ARTICLE 2—PRELIMINARY MATTERS

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

Owner shall furnish to Contractor 4 printed copies of the Contract Documents (including one fully signed counterpart of the Agreement), and **none** in electronic portable document format (PDF).

## ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

SC-3.01 Delete Paragraph 3.01.C in its entirety.

## ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

No Supplementary Conditions in this Article.

## ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Geotechnical Evaluation Report		Geotechnical Information

- F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None		None

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents during regular business hours, or may request copies from Engineer.

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
None		None

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None		None

## ARTICLE 6—BONDS AND INSURANCE

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2018 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2018 edition).

### 6.03 Contractor's Insurance

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess,

pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: None

- E. *Workers' Compensation and Employer's Liability*: Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers' compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

<b>Workers' Compensation and Related Policies</b>	<b>Policy limits of not less than:</b>
<b>Workers' Compensation</b>	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	\$500,000
<b>Employer's Liability</b>	
Each accident	\$1,000,000
Each employee	\$1,000,000
Policy limit	\$2,000,000

- F. *Commercial General Liability—Claims Covered*: Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:
1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
  2. damages insured by reasonably available personal injury liability coverage, and
  3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- G. *Commercial General Liability—Form and Content*: Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage.
    - a. Such insurance must be maintained for three years after final payment.
    - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
  2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
  3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
  4. Underground, explosion, and collapse coverage.

5. Personal injury coverage.
  6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
  7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of "insured contract" (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
  2. Any exclusion for water intrusion or water damage.
  3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
  4. Any exclusion of coverage relating to earth subsidence or movement.
  5. Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation).
  6. Any limitation or exclusion based on the nature of Contractor's work.
  7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.
- I. *Commercial General Liability—Minimum Policy Limits*

<b>Commercial General Liability</b>	<b>Policy limits of not less than:</b>
General Aggregate	\$2,000,000
Products—Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

<b>Automobile Liability</b>	<b>Policy limits of not less than:</b>
<b>Bodily Injury</b>	
Each Person	\$1,000,000

<b>Automobile Liability</b>	<b>Policy limits of not less than:</b>
Each Accident	\$1,000,000
<b>Property Damage</b>	
Each Accident	\$1,000,000
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000

- K. *Umbrella or Excess Liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

<b>Excess or Umbrella Liability</b>	<b>Policy limits of not less than:</b>
Each Occurrence	\$5,000,000
General Aggregate	\$5,000,000

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

- SC-7.03 Amend the first and second sentences of Paragraph 7.03.C to state "...all Work at the Site must be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday or Sunday or any legal holiday without the approval from the Engineer or Owner."

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

### **8.02 Coordination**

- SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- C. Owner intends to contract with others for the performance of other work at or adjacent to the Site.
- Design Tree Engineering shall have authority and responsibility for coordination of the various contractors and work forces at the Site;

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

No Supplementary Conditions in this Article.

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

### **10.03 Resident Project Representative**

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

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor.

RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:

1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
3. *Liaison*
  - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
  - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
  - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
4. *Review of Work; Defective Work*
  - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
  - b. Observe whether any Work in place appears to be defective.
  - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
5. *Inspections and Tests*
  - a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
  - b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
6. *Payment Requests:* Review Applications for Payment with Contractor.
7. *Completion*
  - a. Participate in Engineer's visits regarding Substantial Completion.
  - b. Assist in the preparation of a punch list of items to be completed or corrected.
  - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
  - d. Observe whether items on the final punch list have been completed or corrected.

D. The RPR will not:

1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including “or-equal” items).
2. Exceed limitations of Engineer’s authority as set forth in the Contract Documents.
3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Authorize Owner to occupy the Project in whole or in part.

#### **ARTICLE 11—CHANGES TO THE CONTRACT**

No Supplementary Conditions in this Article.

#### **ARTICLE 12—CLAIMS**

No Supplementary Conditions in this Article.

#### **ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK**

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

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
  - a. the extended price of a particular item of Unit Price Work amounts to **5** percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than **20** percent from the estimated quantity of such item indicated in the Agreement; and
  - b. Contractor’s unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor’s costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

## **ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK**

No Supplementary Conditions in this Article.

## **ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD**

### **15.01 *Progress Payments***

SC-15.01 Add the following new Paragraph 15.01.F immediately after Paragraph 15.01.E:

#### **F. *Subcontractor Payments***

1. The Prime Contractor shall pay subcontractors within ten days of receipt of payment from the Owner or pay interest at the rate of 1 ½ percent per month or any part of a month.

## **ARTICLE 16—SUSPENSION OF WORK AND TERMINATION**

No Supplementary Conditions in this Article.

## **ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES**

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

### **17.02 *Arbitration***

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.



- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
  - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
  - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
  - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
  - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

## **ARTICLE 18—MISCELLANEOUS**

No Supplementary Conditions in this Article.



## NOTICE TO PROCEED

Owner: St. Cloud Area School District 742 Owner's Project No.: \_\_\_\_\_  
Engineer: Design Tree Engineering Engineer's Project No.: 02724004  
Contractor: \_\_\_\_\_ Contractor's Project No.: \_\_\_\_\_  
Project: Talahi Parking Lot Improvements 2026  
Contract Name: Talahi Parking Lot Improvements 2026  
Effective Date of Contract: \_\_\_\_\_

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on **June 8, 2026** pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The date by which Substantial Completion must be achieved is **August 14, 2026**, and the date by which readiness for final payment must be achieved is **August 21, 2026**.

Before starting any Work at the Site, Contractor must comply with the following:

**[Note any access limitations, security procedures, or other restrictions]**

Owner: St. Cloud Area School District 742  
By *(signature)*: \_\_\_\_\_  
Name *(printed)*: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date Issued: \_\_\_\_\_  
Copy: Engineer



**CHANGE ORDER NO.:**

Owner: St. Cloud Area School District 742  
Engineer: Design Tree Engineering  
Contractor:  
Project: **Talahi Parking Lot Improvements 2026**  
Contract Name: **Talahi Parking Lot Improvements 2026**  
Date Issued: Effective Date of Change Order:

Owner's Project No.:  
Engineer's Project No.: 02724004  
Contractor's Project No.:

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

Description:

Attachments:

Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
<b>[Increase] [Decrease]</b> from previously approved Change Orders No. 1 to No. \$ _____	<b>[Increase] [Decrease]</b> from previously approved Change Orders No.1 to No.: Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
<b>[Increase] [Decrease]</b> this Change Order: \$ _____	<b>[Increase] [Decrease]</b> this Change Order: Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____

Recommended by Engineer (if required)

Approved by Contractor

By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

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

Authorized by Owner

By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_



## CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner: St. Cloud Area School District 742 Owner's Project No.:  
Engineer: Design Tree Engineering Engineer's Project No.: 02724004  
Contractor: Contractor's Project No.:  
Project: **Talahi Parking Lot Improvements 2026**  
Contract Name: **Talahi Parking Lot Improvements 2026**

This ☐ Preliminary ☒ Final Certificate of Substantial Completion applies to:

☒ All Work ☐ The following specified portions of the Work:

Date of Substantial Completion: **August 14, 2026**

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punchlist of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: ☒ None ☐ As follows:

**[List amendments to Owner's Responsibilities]**

Amendments to Contractor's Responsibilities: ☒ None ☐ As follows:

**[List amendments to Contractor's Responsibilities]**

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

**Final Punchlist from Design Tree**

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

Engineer

By (signature):

Name (printed): Jeremy Anderson

Title: Project Engineer





## NOTICE OF ACCEPTABILITY OF WORK

Owner: St. Cloud Area School District 742  
Engineer: Design Tree Engineering  
Contractor:  
Project: **Talahi Parking Lot Improvements 2026**  
Contract Name: **Talahi Parking Lot Improvements 2026**  
Effective Date of the Construction Contract:

Owner's Project No.:  
Engineer's Project No.: 02724003  
Contractor's Project No.:

Notice Date:

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By (*signature*): \_\_\_\_\_

Name (*printed*): \_\_\_\_\_

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



# Exemption from Surety Deposits for Non-Minnesota Contractors

Please type or print clearly. This will be your mailing label for returning the form to you.

Contractor information	Contractor		Total contract amount	Minnesota tax ID number
	Address		\$	
	City State Zip Code		Contact person	Daytime phone ( )
			Contract starting date	Projected completion date
			Business type (check one): <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	<input type="checkbox"/> S corporation <input type="checkbox"/> Sole proprietor

Project information	Name of business or government agency		Contact person	Daytime phone ( )
	Contract owner's address		City State Zip Code	Project number
	Project location address		City State Zip code	

I request exemption from surety deposits under Minnesota law (MS 290.9705) for the following reason (check one and complete the information requested):

- ☐ I have a cash surety or a bond secured by an insurance company licensed in Minnesota. The bond must be 8 percent of the total contract amount. **Attach a copy of the bonding agreement.**

Bonding company	Bonding agent
Address	Daytime phone ( )
City State Zip code	Period of bond (month/day/year) From / / To / /

- ☐ I have done construction work in Minnesota during the past three calendar years and have fully complied with Minnesota law regarding Minnesota income, sales and withholding taxes.
- ☐ I am performing work for a government agency and have a payment and performance bond.
- ☐ I am performing work for a government agency and have a cash surety issued by a state bank, national bank, or savings and loan association doing business in Minnesota.

I declare this information is true and complete to the best of my knowledge and belief. I authorize the Department of Revenue to send a copy of this form to the contract owner and discuss this case and related taxes with the bonding company.

Contractor's signature	Title	Date
------------------------	-------	------

**Mail to:** Minnesota Revenue, Mail Station 6501, St. Paul, MN 55146-6501

## Department of Revenue Approval

The above-named out-of-state contractor is exempt from the surety requirements of Minnesota Statute 290.9705 for this project.

Department of Revenue approval

Date

# Instructions for Form SDE

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## Who can apply?

A non-Minnesota contractor can apply for an exemption if your contract exceeds or is expected to exceed \$50,000 or multiple contracts have exceeded \$50,000 cumulative per calendar year for work done in Minnesota.

## Before you start

You must have a Minnesota tax ID number from the Department of Revenue to request this exemption.

If you don't have one, you must apply for one. Go to our website at [www.taxes.state.mn.us](http://www.taxes.state.mn.us) and click "Register for a Minnesota tax ID number" on the e-services menu. If you do not have Internet access, call Registration Services at 651-282-5225 or 1-800-657-3605.

## How to apply

To apply for an exemption from Minnesota surety deposits, file Form SDE before the project is started.

Mail this form and any required attachments to the address on the front.

## If you're approved

If we approve the exemption, we'll sign the bottom of this form and return it to you. Make a copy for your records and give the original to the business for whom you are doing the work.

## If you're not approved

If we determine you're not eligible for exemption, 8 percent of each payment made to you must be withheld by the business for whom you are doing the work and deposited with the Department of Revenue.

To apply for a refund, complete Form SDR, *Refund of Surety Deposits for Non-Minnesota Contractors*. When the project is complete, and we determine that you have complied with Minnesota income, withholding and sales tax laws, you'll receive a refund plus interest at the current rate required by law.

## Use of information

All information on this form is required except for your phone number.

All information is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy, the contract owner or bonding company, and certain government agencies as provided by law.

## Information and assistance

If you need help or additional information to fill out this form, call 651-282-9999 or 1-800-657-3594. TTY: Call 711 for Minnesota Relay.

A fact sheet on surety deposit requirements (Fact Sheet 12) is also available upon request.

We'll provide information in another format upon request to persons with disabilities.



Withholding Affidavit for Contractors

This affidavit must be approved by the Minnesota Department of Revenue before the state of Minnesota or any of its subdivisions can make final payment to contractors.

Please type or print clearly. This will be your mailing label for returning the completed form.

Company name		Daytime phone	Minnesota tax ID number
Address		( )	
City State Zip Code		Total contract amount	Month/year work began
		\$	
		Amount still due	Month/year work ended
		\$	

Project information

Project number	Project location			
Project owner	Address	City	State	Zip code
Did you have employees work on this project? <input type="checkbox"/> Yes <input type="checkbox"/> No If no, who did the work?				

Contractor type

Check the box that describes your involvement in the project and fill in all information requested.

☐ **Sole contractor**

☐ **Subcontractor**

Name of contractor who hired you

Address

☐ **Prime contractor**—If you subcontracted out any work on this project, all of your subcontractors must file their own IC134 affidavits and have them certified by the Department of Revenue *before* you can file your affidavit. For each subcontractor you had, fill in the information below and attach a copy of each subcontractor's certified IC134. If you need more space, attach a separate sheet.

Business name	Address	Owner/Officer

Sign here

I declare that all information I have filled in on this form is true and complete to the best of my knowledge and belief. I authorize the Department of Revenue to disclose pertinent information relating to this project, including sending copies of this form, to the prime contractor if I am a subcontractor, and to any subcontractors if I am a prime contractor, and to the contracting agency.

Contractor's signature	Title	Date
------------------------	-------	------

Mail to: Minnesota Revenue, Mail Station 6610, St. Paul, MN 55146-6610

Certificate of Compliance

Based on records of the Minnesota Department of Revenue, I certify that the contractor who has signed this certificate has fulfilled all the requirements of Minnesota Statutes 290.92 and 270C.66 concerning the withholding of Minnesota income tax from wages paid to employees relating to contract services with the state of Minnesota and/or its subdivisions.

Department of Revenue approval

Date

# Instructions for Form IC134

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## Who must file

If you are a prime contractor, a contractor or a subcontractor who did work on a project for the state of Minnesota or any of its local government subdivisions — such as a county, city or school district — you must file Form IC134 with the Minnesota Department of Revenue.

This affidavit must be certified and returned before the state or any of its subdivisions can make final payment for your work.

## If you're a prime contractor and a subcontractor on the same project

If you were hired as a subcontractor to do work on a project, and you subcontracted all or a part of your portion of the project to another contractor, you are a prime contractor as well. Complete both the subcontractor and prime contractor areas on a single form.

## When to file

The IC134 cannot be processed until you finish the work. If you submit the form before the project is completed, it will be returned to you unprocessed. Mail Form IC134 to the address at the bottom of the form.

**If you are a subcontractor or sole contractor**, send in the form when you have completed your part of the project.

**If you are a prime contractor**, send in the form when the entire project is completed and you have received certified affidavits from all of your subcontractors.

## How to file

If you have fulfilled the requirements of Minnesota withholding tax laws, the Department of Revenue will sign your affidavit and return it to you.

If any withholding payments are due to the state, Minnesota law requires certified payments before we approve the IC134.

Submit the certified affidavit to the government unit for which the work was done to receive your final payment. If you are a subcontractor, submit the certified affidavit to your prime contractor to receive your final payment.

## Minnesota tax ID number

You must enter your Minnesota tax ID number on the form. You must have a Minnesota tax ID number if you have employees who work in Minnesota.

If you don't have a Minnesota ID number, you must apply for one. Call 651-282-5225.

An applications (Form ABR) is also available on our website at [www.taxes.state.mn.us](http://www.taxes.state.mn.us).

If you have no employees and did all the work yourself, you do not need a Minnesota tax ID number. If this is the case, enter your Social Security number in the space for Minnesota tax ID number and explain who did the work.

## Information and assistance

If you need help or more information to complete this form, call 651-282-9999.

Additional forms are available on our website at [www.taxes.state.mn.us](http://www.taxes.state.mn.us) or by calling 651-296-4444. TTY: Call 711 for Minnesota Relay.

We'll provide information in other formats upon request to persons with disabilities.

## Use of information

The Department of Revenue needs all the information to determine if you have met all state income tax withholding requirements. If all required information is not provided, the IC134 will be returned to you for completion.

All information on this affidavit is private by state law. It cannot be given to others without your permission, except to the Internal Revenue Service, other states that guarantee the same privacy and certain government agencies as provided by law.

## SECTION 01 11 00

### SUMMARY OF WORK & RESTRICTIONS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and premises.
- C. Coordination with other Contracts
- D. Work sequence.
- E. Owner occupancy.

##### 1.2 CONTRACT DESCRIPTION

- A. Work on the Project includes the reconstruction of parking lots at Apollo High School for the St. Cloud Area School District as well as the associated storm water management, erosion control, striping, signage, and turf establishment.
- B. These specifications Division 0 through 36, apply to Item A above. Elements of the work include, but are not limited to:
  - 1. Miscellaneous Removals
  - 2. Site Clearing
  - 3. Erosion Control
  - 4. Traffic Control
  - 5. Grading & Base Construction
  - 6. Bituminous Construction
  - 7. Concrete Construction
  - 8. Storm Sewer Construction
  - 9. Landscaping Construction
- C. Perform Work of Contract under stipulated contract with Owner in accordance with Conditions of Contract.

##### 1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
  - 1. Owner occupancy.
  - 2. Work by Others and Work by Owner.
  - 3. Use of site and premises by the public.
- B. Construction Operations shall be limited to Owner's property, public right-of-ways, easement areas, and areas noted on Drawings.
- C. The Contractor shall be restricted to performing work from 7:00 AM to 7:00 PM Monday through Friday unless authorized by the Owner or Engineer.
- D. Utility outages and shutdowns shall be coordinated with the appropriate Utility Companies, impacted residences or businesses, the Owner and the Engineer.

- E. Contractor shall not leave open excavations within roadway clear zones or near pedestrian travel ways.
- F. Open Excavations shall be backfilled at the end of each work day.

#### 1.4 WORK SEQUENCE

- A. Construct Work in to accommodate Owner's occupancy requirements and to ensure safe passage of persons through and around the area of work during construction period.
- B. Coordinate construction schedule and operations with Owner and Engineer.
- C. Removals shall not commence until construction is ready to begin.
- D. Final restoration shall be completed to comply with NPDES permit regulations and as shown on the plans.
- E. All shutdowns or interruptions to service shall be coordinated by the Contractor with the Owner and the Engineer.

#### 1.5 COORDINATION WITH OTHER CONTRACTS

- A. The Owner has miscellaneous construction occurring on areas of the school and the Contractor shall coordinate their work with Bradbury-Stamm as needed.

#### 1.6 OWNER OCCUPANCY

- A. The Owner intends to occupy and begin use of the improvements of the Project by the dates outlined in Section 00520 –Agreement Between Owner and Contractor On The Basis of A Stipulated Price.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operation of improvements once they have been turned over to the Owner.
- C. Schedule the Work to accommodate Owner occupancy requirements.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***



## **SECTION 01 18 00**

### **PROJECT UTILITY SOURCES**

#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Utility Companies.
- B. Utility Location.

##### **1.2 CONTRACT DESCRIPTION**

- A. The Utility Companies that provide service to the Owner or that are present in the project area are listed below. This list may not be complete and the Contractor shall verify the utilities that are in the area as specified in Part 3 below.

- 1. St. Cloud Area School District
- 2. Arvig
- 3. AT&T
- 4. CenterPoint Energy
- 5. City of St. Cloud
- 6. Charter Communications
- 7. CenturyLink
- 8. Stearns Electric
- 9. Sherburne County
- 10. Windstream Communications
- 11. Xcel Energy
- 12. Zayo Bandwidth

#### **PART 2 PRODUCTS**

Not Used.

#### **PART 3 EXECUTION**

##### **3.1 UTILITY LOCATION**

- A. The locations of underground utilities shown on the Plans are approximate only.
- B. Maps showing the approximate locations of existing underground utilities are available at the Engineer's office or through the utility company. These maps do not constitute a complete record of the type and location of utilities that may be encountered on the project.
- C. The Contractor shall notify all utility companies using the Gopher One Call System, (800) 252-1166, and prior to commencing any work on the project.

- D. It shall be the Contractor's responsibility to secure information regarding buried utilities and other utility facilities and to conduct operations in the vicinity of any such facilities in a manner that precludes damage thereto.
- E. Contractor shall coordinate with utility companies to hold utility poles, transformers, etc. or to move them as necessary to facilitate construction and protect other facilities as needed on the project.

**\*\* END OF SECTION \*\***

## SECTION 01 30 00

### ADMINISTRATIVE REQUIREMENTS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Progress meetings.
- E. Progress Schedules.

##### 1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Utility Outages and Shutdowns shall be coordinated with the appropriate Utility Companies, impacted residences or businesses, the Owner and the Engineer.
- C. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- D. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

##### 1.3 FIELD ENGINEERING

- A. Locate and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- B. Control datum for survey is that established by Owner provided survey.
- C. Verify set-backs and easements; confirm drawing dimensions and elevations.
- D. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices based on construction staking provided by the Owner.
- E. Maintain complete and accurate log of control and survey work as Work progresses.
- F. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- G. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.

- H. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

#### 1.4 PRECONSTRUCTION MEETING

- A. Owner and Engineer will schedule meeting after Notice of Award, but prior to any work beginning.
- B. Attendance Required: Owner, Engineer, Engineer's Subconsultants, Contractor and Subcontractors.
- C. Agenda:
  - 1. Execution of Owner-Contractor Agreement.
  - 2. Submission of executed bonds and insurance certificates.
  - 3. Distribution of Contract Documents.
  - 4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
  - 5. Designation of personnel representing parties in Contract, the Owner and the Engineer.
  - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  - 7. Scheduling.
  - 8. Permit Status.
  - 9. Testing Requirements.
  - 10. Utility Company Comments.
- D. The Engineer shall record minutes and distribute copies within seven days after meeting to participants. Participants shall submit any modifications they deem necessary to the minutes within three days of receipt of the minutes.

#### 1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work as deemed necessary by the Owner, Engineer or Contractor at maximum bi-weekly intervals.
- B. Progress meeting will be held on site at a time to be determined at the pre-construction conference.
- C. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- D. Attendance Required: Job superintendent, major subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
- E. Agenda:
  - 1. Review minutes of previous meetings.
  - 2. Review of Work progress.
  - 3. Field observations, problems, and decisions.
  - 4. Identification of problems impeding planned progress.
  - 5. Review of submittals schedule and status of submittals.
  - 6. Review of off-site fabrication and delivery schedules.

7. Maintenance of progress schedule.
  8. Corrective measures to regain projected schedules.
  9. Planned progress during succeeding work period.
  10. Coordination of projected progress.
  11. Maintenance of quality and work standards.
  12. Effect of proposed changes on progress schedule and coordination.
  13. Other business relating to Work.
- F. The Engineer shall record minutes and distribute copies within seven days after meeting to participants. Participants shall submit any modifications they deem necessary to the minutes within three days of receipt of the minutes.

#### 1.6 PROGRESS SCHEDULES

- A. Provide and maintain a progress schedule per the EJCDC Standard General Conditions of the Construction Contract.
- B. Progress schedule shall be submitted prior to the pre-construction meeting and will be reviewed at the pre-construction meeting.
- C. Show complete sequence of construction by activity, identifying Work of separate stages.
- D. Submit revised schedules with each Application for Payment, identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- E. Submit revised schedule with each Proposal Request and Change Order.
- F. If the Contractor is behind the current progress schedule, the Engineer may request a revised progress schedule be submitted and corrective actions to get back on schedule.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***



## SECTION 01 33 00

### SUBMITTAL PROCEDURES

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.

##### 1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form. Number of copies forwarded by Contractor for each submittal shall be 3 more than that to be returned to the Contractor.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project.
- F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Engineer review stamps.

- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

### 1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit computer generated schedule as specified in Section 01 3000 – Administrative Requirements.

### 1.4 PROPOSED PRODUCTS LIST

- A. Within 15 days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

### 1.5 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus 3 copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700 - Execution Requirements.

### 1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.



- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
  - 1. Include signed and sealed calculations to support design.
  - 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
  - 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus three copies Engineer will retain.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution Requirements.

#### 1.7 SAMPLES

- A. Samples: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples For Selection as Specified in Product Sections:
  - 1. Submit to Engineer for aesthetic, color, or finish selection.
  - 2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect/Engineer selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Engineer will retain one sample.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.
- H. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in Section 01 70 00 - Execution Requirements.

## 1.8 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

## 1.9 TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

## 1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

## 1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

## 1.12 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report in duplicate within 5 days of observation to Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

## **PART 2 PRODUCTS**

Not Used.

**PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***



## SECTION 01 40 00

### QUALITY REQUIREMENTS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances
- C. References.
- D. Mock-up requirements.
- E. Manufacturers' field services.

##### 1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step-in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

##### 1.3 TOLERANCES

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

#### 1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. When specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

#### 1.5 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer subject to approval of Engineer and Owner.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, MANUFACTURERS' FIELD REPORTS article.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***

## SECTION 01 50 00

### TEMPORARY FACILITIES AND CONTROLS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Construction Facilities:
  - 1. Vehicular access/traffic control.
  - 2. Parking.
  - 3. Progress cleaning and waste removal.
  - 4. Traffic regulation.
- B. Temporary Controls:
  - 1. Stormwater control.
  - 2. Dust control.
  - 3. Noise control.
- C. Removal of utilities, facilities, and controls.
- D. Traffic Control Devices.
- E. Traffic Control.
- F. Temporary Lane Closures.
- G. Flagging.
- H. Coordination of Traffic Control & Services.
- I. Maintenance of Haul Roads.

##### 1.2 VEHICULAR ACCESS/TRAFFIC CONTROL

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes.
- B. Construct temporary culverts to span low areas and allow unimpeded drainage.
- C. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow.
- D. Location as approved by Engineer and Owner.
- E. Provide unimpeded access for emergency vehicles. Maintain 20-foot-wide driveways with turning space between and around combustible materials.
- F. Provide and maintain access to fire hydrants and control valves free of obstructions.
- G. Provide rock construction entrances or a means of removing mud from vehicle wheels before entering streets.

### 1.3 PARKING

- A. Arrange for, provide, or construct as necessary temporary gravel surface parking areas to accommodate construction personnel.
- B. Locate as approved by Engineer and Owner.
- C. When site space is not adequate, provide additional off-site parking.
- D. Use of existing on-site streets used for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.
- E. Use of existing parking facilities used by construction personnel is not permitted.
- F. Do not allow heavy vehicles or construction equipment in parking areas.
- G. Permanent Pavements And Parking Facilities:
  - 1. Prior to Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
  - 2. Avoid traffic loading beyond paving design capacity. Tracked vehicles are not allowed.
- H. Maintenance:
  - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
  - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- I. Removal, Repair:
  - 1. Remove temporary materials and construction before Substantial Completion.
  - 2. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
  - 3. Repair existing and permanent facilities damaged by use, to original or specified condition.
- J. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

### 1.4 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Collect and remove waste materials, debris, and rubbish from site weekly and dispose off-site.



## 1.5 TRAFFIC REGULATION

- A. Signs, Signals, And Devices:
  - 1. Post Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
  - 2. Automatic Traffic Control Signals: As approved by local jurisdictions.
  - 3. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction.
  - 4. Flagperson Equipment: As required by authority having jurisdiction.
- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- C. Flares, lights and flashers: Use flares, lights and flashers during hours of low visibility to delineate traffic lanes and to guide traffic.
- D. Haul Routes:
  - 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
  - 2. Confine construction traffic to designated haul routes.
  - 3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.
- E. Traffic Signs And Signals:
  - 1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
  - 2. Provide, operate, and maintain traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
  - 3. Relocate as Work progresses, to maintain effective traffic control.
- F. Removal:
  - 1. Remove equipment and devices when no longer required.
  - 2. Repair damage caused by installation.

## 1.6 STORMWATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Maintain the flow of drains, sewers and water courses encountered during construction.

## 1.7 DUST CONTROL

- A. Apply water or calcium chloride as required to control dust during construction.

## 1.8 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

## 1.9 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

# **PART 2 PRODUCTS**

## 2.1 TRAFFIC CONTROL DEVICES

- A. Materials shall be as specified according to MnDOT Standard Specification for Construction – 2020 Edition, Sections 1710 and 2564 except as modified herein.
- B. All traffic control devices and methods shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD), Minnesota Standard Signs Manual, the Traffic Engineering Manual, and the following:
  - 1. On any roadway having a 45 mph or higher speed limit prior to construction, all Category I and II temporary traffic control devices used after July 1, 2006 shall meet NCHRP 350 crash testing criteria. This includes all new and used Category I and Category II devices. Category I devices include tube markers, plastic drums and cones, etc. Category II devices include portable sign supports, Type I, II and III barricades, etc.
  - 2. The Contractor shall provide the Project Engineer a Letter of Compliance stating that all of the Contractors Category I and II Devices are NCHRP 350 approved. The Letter of Compliance must also include approved drawings of the different signs and devices and shall be provided to the Project Engineer at the Pre-construction meeting.
- C. Traffic control devices include, but are not limited to, barricades, warning signs, lane markings, trailers, flashers, cones, drums, concrete j-barriers and impact attenuators, as required, and sufficient weights to maintain barricade or sign stability during normal environmental and traffic conditions.

- D. The Contractor shall install and maintain flashing lamps on all advance warning signs.

### **PART 3 EXECUTION**

- A. All traffic control devices shall conform and be installed in accordance to the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD) and Part 6, "Field Manual for Temporary Traffic Control Zone Layouts", the "Guide to Establishing Speed Limits in Highway Work Zones", the Minnesota Flagging Handbook, the provisions of Mn/DOT 1404 and 1710, the Minnesota Standard Signs Manual, the Traffic Engineering Manual, the Traffic Control Layouts/Typical Traffic Control Layouts in the Plans, and these Special Provisions.
- B. The Contractor shall furnish, install, maintain, and remove all traffic control devices required to provide safe movement of vehicular traffic through the Project during the life of the Contract from the start of Contract operations to the final completion thereof. The Engineer will have the right to modify the requirements for traffic control as deemed necessary due to existing field conditions. The highways shall be kept open to traffic at all times, except as modified below.
- C. The EJCDC General and Supplemental specifications shall take precedence in resolving any conflict, error, etc. between the Contract Documents and any standard, specification, manual, code, or instruction.

#### **3.1 TRAFFIC CONTROL**

- A. If required and authorized by governing authorities, provide alternate routes or detours around closed or obstructed work areas.
- B. The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every 24 hours.
- C. The Contractor shall furnish the Engineer names, addresses and phone numbers of at least two (2) local persons responsible for all traffic control devices.
- D. If traffic control layouts are not present in the Plan, or the Contractor modifies the layout or sequence from the Plan, the Contractor shall submit the proposed traffic control layout to the Engineer, for approval, at least fourteen (14) days prior to the start of construction. At least 24 hours prior to placement, all traffic control devices shall be available on the Project for inspection by the Engineer. The Contractor shall modify his/her proposed traffic control layout and/or devices as deemed necessary by the Engineer.

- E. The Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate lane closure or internal traffic control signing.
- F. The Contractor shall inspect, on a daily basis, all traffic control devices, which the Contractor has furnished and installed, and verify that the devices are placed in accordance with the Traffic Control Layouts, these Special Provisions, and/or the MN MUTCD. Any discrepancy between the placement and the required placement shall be immediately corrected.
- G. The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to an hourly charge assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.
- H. The person performing the inspection in paragraph (G) above, shall be required to make a daily log. This log shall also include the date and time any changes in the stages, phases, or portions thereof go into effect. The log shall identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. All entries in the log shall include the date and time of the entry and be signed by the person making the inspection. The Engineer reserves the right to request copies of the logs as he deems necessary.
- I. All portable sign assemblies shall be perpendicular to the ground. No traffic control device (signs, channelizing devices, arrowboards, etc.) shall be weighted so they become hazardous to motorists and workers. The approved ballast system for devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. During freezing conditions, the sand for bags shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control device to the satisfaction of the Engineer.
- J. The Contractor shall cover or remove all traffic control devices which may be inconsistent with traffic patterns during all traffic switches and construction.
- K. Open excavation adjacent to the existing pavement will not be permitted on opposite sides of the roadway at the same time.
- L. The Contractor shall provide protective devices, including concrete J-barrier, necessary to protect traffic from excavations, drop-offs, falling objects, splatter or other hazards that may exist during construction.

- M. The Contractor will not be permitted to park vehicles or construction equipment so as to obstruct any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.
- N. The Contractor will not be allowed to store materials or equipment within 30 feet of through traffic unless approved by the Engineer. If materials or equipment must be stored within 30 feet of through traffic, the Contractor shall provide Type B channelizers, barricades or barriers, placed near the object to warn and protect traffic.
- O. All personnel working within the right-of-way shall wear reflectorized safety vests.

### 3.2 TEMPORARY LANE CLOSURES

- A. Unless otherwise accepted by the Engineer, any temporary lane closure that is adjacent to traffic, and is extending to or beyond 1000 feet shall have a minimum of one Type III barricade, or 3 drums, placed in the closed lane for every 1000 feet of extension. Any lane closure that is adjacent to traffic and in place 3 days or more, shall use the Type III barricade only.
- B. All temporary lane closures shall have Type B Channelizers (drums, Type I or Type II barricades, vertical panel or Direction Indicator Barricades) in the lane closure taper and also in any shifts in traffic alignment.
- C. Short Term Duration lane closures will not be permitted during inclement weather, nor any other time when, in the opinion of the Engineer, the lane closure will be a greater than normal hazard to traffic.
- D. Temporary lane closures or other restrictions by the Contractor, during work hours and consistent with the time restrictions, will be permitted during those hours and at those locations approved by the Engineer. Requests for temporary lane closures shall be made at least 24 hours prior to such closures. When a temporary lane closure is used by the Contractor, the closure shall be incidental work and no direct compensation will be made therefore.

### 3.3 FLAGGING OPERATIONS

- A. The Contractor shall furnish flag persons as required to adequately control traffic. Flag persons shall conform to the requirements set forth in the MN MUTCD. All costs incurred to provide such flag persons shall be incidental to the lump sum traffic control.
- B. The Contractor shall provide two-way radios for flag persons.
- C. Flag persons shall wear high visibility retroreflective safety vests, pants and hats at all times while actively flagging on the Project. High visibility apparel shall also comply with current Minnesota OSHA Rules 5207.0100 and 5207.1000. The flag persons clothing shall be an incidental expense for which no direct compensation will be made.

- D. If hauling operations create hazards for the traveling public, the Contractor will be required to provide additional flaggers, as directed by the Engineer. All costs incurred to provide the additional flaggers shall be incidental to the lump sum traffic control.

#### 3.4 COORDINATION OF TRAFFIC CONTROL & SERVICES

- A. Provide adequate access to all businesses and residences during construction.
- B. Contact the local school district and coordinate bus service pick-ups and drop-offs during construction.
- C. Contact the local Post Office and coordinate continuous postal service during construction.
- D. Contact the local waste management removal company(s) and coordinate continuous garbage and recycling removal during construction.

#### 3.5 MAINTENANCE OF HAUL ROADS

- A. Contractor shall maintain haul routes as specified in MnDOT Standard Specifications of Construction - 2020 Edition, Section 1515.

\*\* END OF SECTION \*\*

## SECTION 01 60 00

### PRODUCT REQUIREMENTS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

##### 1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.
- C. Furnish interchangeable components from same manufacturer for components being replaced.

##### 1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

##### 1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.

- E. Provide off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

#### 1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

### **PART 2 PRODUCTS**

Not Used.

### **PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***



## SECTION 01 7000

### EXECUTION AND CLOSEOUT REQUIREMENTS

#### **PART 1 GENERAL**

##### 1.1 SECTION INCLUDES

- A. Surveys and Property Corners.
- B. Right-of-way.
- C. Permits.
- D. Liens.
- E. Withholding Compliance Requirements.
- F. Closeout Procedures.
- G. Final Cleaning.
- H. Starting of Systems.
- I. Demonstration and instructions.
- J. Testing, adjusting and balancing.
- K. Protecting installed construction.
- L. Project record documents.
- M. Spare parts and maintenance products.
- N. Product warranties and product bonds.
- O. Maintenance Service.

##### 1.2 SURVEYS AND PROPERTY CORNERS

- A. The Owner will provide necessary benchmarks and reference points to develop and make detailed surveys for construction.
- B. When requested, the Owner or Engineer will also provide the construction staking which are needed to the actual construction.
- C. The Contractor shall verify the accuracy of the construction staking against information in the Plans and shall notify the Engineer of any discrepancies prior to commencing with the work.
- D. In the case of destruction of construction stakes or benchmarks, the cost of replacing stakes and marks shall be paid by the Contractor.
- E. Contractor shall preserve and maintain all property and lot corners within the project area. Destruction or damage of said items rendering them useless shall be restored by a Registered Land Surveyor before final payment is made to the Contractor.

##### 1.3 RIGHT-OF-WAY

- A. The Contractor shall limit construction activities to the Owner's property, existing public right-of-way, permanent easements, and temporary easements as shown on the plans.

- B. If the Contractor obtains permission from a property owner for use of their land. A copy of any written agreement shall be provided to the Owner and Engineer. At minimum, the Contractor shall notify the Engineer of the Owner with whom the agreement was made and the land to be utilized.

#### 1.4 PERMITS

- A. The Owner has applied or will apply for the permits listed below. Work can not proceed on the permitted elements of the work without an approved permit.
  - 1. Minnesota Pollution Control Agency –NPDES Stormwater Permit (After Bid Award)
  - 2. City of St. Cloud – Land Disturbance Permit
  - 3. Minnesota Department of Labor & Industry – Plumbing Plan Review
  - 4. Sherburne County – Right-of-way Permit
- B. The Contractor is responsible for applying for, securing and scheduling inspections for plumbing and electrical work on the project.
- C. The Contractor is responsible for any bonds, insurance or other permit requirements related to construction.
- D. The Contractor shall notify the appropriate permitting authority prior to commencing any work as required by the permits.
- E. All costs associated with complying with the terms and conditions of the above stated permits are incidental to the project unless otherwise noted in these specifications.

#### 1.5 LIENS

- A. Neither final payment nor retainage shall become due until the Contractor, if required, delivers to the Owner a complete release of all liens arising out of this contract, or receipts in lieu thereof.
- B. If any lien and/or claim remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such liens and/or claims including all costs and attorney's fees.

#### 1.6 WITHHOLDING COMPLIANCE REQUIREMENTS

- A. A Contractor working for the State of Minnesota or any of its subdivisions must comply with the withholding laws set forth in Minnesota Statutes 290.92 and 290.97.
- B. The Contractor upon completion of the project shall fill out IC-134 forms and send them to the Department of Revenue for certification.
- C. When certification is received by the Contractor, the certified IC-134 shall be submitted to the Owner along with a request for final payment. All dates shall correspond with the actual periods when people were actually working on the project.

## 1.7 CLOSEOUT PROCEDURES

- A. Provide submittals to Engineer required by authorities having jurisdiction.
- B. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

## 1.8 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean debris from sanitary sewer and drainage systems.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from site.

## 1.9 TESTING, ADJUSTING AND BALANCING

- A. Adjust operating products and equipment to ensure operation within project and equipment specifications in accordance with the equipments intended use.
- B. Reports will be submitted to Engineer indicating observations and results of tests and indicating compliance or non-compliance with requirements of Contract Documents.

## 1.10 PROTECTING INSTALLED CONSTRUCTION

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

## 1.11 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed Shop Drawings, Product Data, and Samples.
  - 6. Manufacturer's instruction for assembly, installation, and adjusting.
  - 7. NPDES Storm Water Permit
  - 8. SWPPP
  - 9. Storm Water Inspection Logs
- B. Ensure entries are complete and accurate, enabling future reference by Owner.

- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and modifications.
- F. Record Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 3. Field changes of dimension and detail.
  - 4. Details not on original Contract drawings.
- G. Submit documents to Engineer with claim for final Application for Payment.

#### 1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.
- B. Deliver to and place in location as directed by Owner; obtain receipt prior to final payment.

#### 1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within thirty (30) days after completion of applicable item of work.
- B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information, and are notarized.
- D. Co-execute submittals when required.
- E. Submit prior to final Application for Payment.

#### 1.14 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components indicated in specification sections during warranty period.

- B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.
- D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

## **PART 2 PRODUCTS**

Not Used.

## **PART 3 EXECUTION**

Not Used.

**\*\* END OF SECTION \*\***



## **SECTION 10 14 53**

### **TRAFFIC SIGNAGE**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. This work shall consist of furnishing and installing traffic and parking signage in pavement surfaces, in the form of traffic lanes, parking bays, areas restricted to handicapped persons, crosswalks, and other signage, in accordance with the details and finishing plan, or as prescribed by the Owner.

##### **1.2 SUBMITTALS**

- A. In accordance with SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish Manufacturer's Certificates and Data certifying that the following materials conform to the requirements specified.

#### **PART 2 PRODUCTS**

##### **2.1 SIGNS**

- A. Signs shall meet the requirements of MnDOT Standard Specifications for Construction, 2020 Edition, Section 3352, the most current MnDOT special provisions, and the MN MUTCD.

##### **2.2 SIGN POSTS**

- A. Sign posts shall meet the requirements of MnDOT Standard Specifications for Construction, 2020 Edition, Section 3401, 3402, and the most current MnDOT special provisions.

#### **PART 3 EXECUTION**

##### **3.1 GENERAL**

- A. Execution shall be in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2564, the most current MnDOT special provisions, and the MN MUTCD and as shown in the plans except as modified herein.

##### **3.2 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify location of all undergrounding utilities prior to commencing the work.

##### **3.3 INSTALLATION**

- A. Locations of signs on the Plans are approximate. Final locations of the signs shall be approved the Engineer or Owner's Representative prior to installation.
- B. Posts shall be installed plumb and to the requirements set forth in MnDOT specifications and the plans. Posts that are bent or otherwise damaged shall be removed and replaced at no expense to the Owner.
- C. Set posts as shown in the details for signs installed in asphalt, concrete or other pavement surfaces.

- D. Prior to completion, remove all rust and clean post and signs of all grease, oil or other contaminating materials.

#### **3.4 PROTECTION**

- A. Conduct installation operations in such a manner that necessary traffic can move without hindrance.
- B. Protect the signs from damage from continuing construction and traffic. Replace damaged signs at no additional cost to the Owner.

#### **3.5 FINAL CLEAN-UP**

- A. Remove all debris, rubbish and excess material from the Site.

**END OF SECTION**



## **SECTION 10 75 00**

### **FLAGPOLES**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. This work shall consist of furnishing and installing flagpoles in accordance with the plans and details, or as prescribed by the Owner.

##### **1.2 SUBMITTALS**

- A. Product Data: Furnish complete specifications and product data which indicate compliance with specified requirements.
- B. Shop Drawings: Shop Drawings shall include flagpole and foundation specifications and manufacturer provided installation instructions.

#### **PART 2 PRODUCTS**

##### **2.1 FLAGPOLES**

- A. Provide one (1) flagpole at the locations shown on the plans.
- B. 30' aluminum Counterbalanced Pole System Style PT-P as manufactured by Pole Tech Co, Inc.
- C. Or Owner approved equal.

##### **2.2 FLAGPOLE FOUNDATION**

- A. Provide flagpole foundations in accordance with manufacturer specifications.

#### **PART 3 EXECUTION**

##### **3.1 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify location of all undergrounding utilities prior to commencing the work.

##### **3.2 INSTALLATION**

- A. Install flagpoles at the locations shown on the plans per manufacturer specifications.
- B. Provide concrete flagpole foundation per manufacturer specifications.

##### **3.3 PROTECTION**

- A. Conduct installation operations in such a manner that necessary traffic can move without hindrance.
- B. Protect the flagpoles from damage from continuing construction and traffic. Repair/replace damaged flagpoles at no additional cost to the Owner.

##### **3.4 FINAL CLEAN-UP**

- A. Remove all debris, rubbish and excess material from the Site.

**END OF SECTION**

## **SECTION 26 05 00**

### **COMMON WORK RESULTS FOR ELECTRICAL**

#### **PART 1 GENERAL**

##### **1.1 SECTION SUMMARY**

- A. Section Includes, but not limited to:
  - 1. General Requirements for Electrical
  - 2. Equipment and Materials
  - 3. General Workmanship and Installation Requirements for Electrical.

##### **1.2 RELATED SECTIONS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 0 and Division 01 Specification Sections apply to this Section.
- B. Division 26: Electrical
- C. When a Specification Section refers to other Sections under the Article on Related Sections, this is for Contractor's convenience. It shall in no way relieve the Contractor of responsibilities stated in other Sections of the Specifications, even though these Sections are not referenced. The Contractor is responsible for all information contained in this Division's Specifications as well as for information contained in all other Divisions.

##### **1.3 ALTERNATES**

- A. Refer to Bid Form and Instruction to Bidders.

##### **1.4 REGULATORY REQUIREMENTS**

- A. Meet or exceed all current applicable codes, ordinances, and regulations for all installations. Promptly notify the Engineer, in writing, if the contract documents appear to conflict with governing codes and regulations. The contractor assumes all responsibility and costs for correcting non-complying work installed without notifying the Engineer.
- B. Higher quality of workmanship and materials indicated in the Contract Documents takes precedence over that allowed in referenced codes and standards.
- C. Perform all work in compliance with the currently adopted version of the following codes and standards for this project:
  - 1. Energy Codes and Standards:
    - a. International Energy Conservation Code (IECC)
    - b. Illuminating Engineering Society of North America (IESNA)
    - c. American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE 90.1)
  - 2. International Code Council:
    - a. International Building Code (IBC)
    - b. International Fire Code (IFC)
  - 3. National Fire Protection Association Codes and Standards:
    - a. NFPA 70 - National Electrical Code
    - b. NFPA 72 - Fire Alarm Code
    - c. NFPA 101 - Life Safety Code
  - 4. National Electrical Safety Code (ANSI C2)
  - 5. City, State and Local Building Codes and Ordinances

6. City, State and Local Fire Codes and Regulations
7. Occupational Safety and Health Administration Regulations (OSHA)
8. Americans with Disabilities Act (ADA)
9. Uniform Federal Accessibility Standards
10. State Department of Health Codes and Regulations
11. Testing Agencies:
  - a. Underwriters Laboratory
  - b. Intertek ETL

## 1.5 REFERENCES

- A. Use the latest edition of the standard or the edition required by governing code were referenced in the specifications by the following abbreviations:
  1. ANSI American National Standards Institute:
    - a. C2 - National Electrical Safety Code.
    - b. C62.41-IEEE - Recommended Practice for Surge Voltages in Low-Voltage AC Power Circuits.
  2. ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers
  3. CBM – Certified Ballast Manufacturer
  4. EPA-Environmental Protection Agency
  5. ETL – Electrical Testing Laboratory
  6. ICEA - Insulated Cable Engineers Association:
    - a. S-95-658 - Thermoplastic-Insulated Wire and Cable.
    - b. S-65-375 - Rubber-Insulated Wire and Cable.
  7. IEEE Institute of Electrical and Electronic Engineers:
    - a. 112 - Standard Test Procedure for Polyphase Induction Motors and Generators.
    - b. 519 - Recommended Practices and Requirements for Harmonic Control in Electric Power Systems.
  8. IES - Illuminating Engineering Society
  9. NBFU - National Board of Fire Underwriters
  10. NECA – National Electrical Contractor’s Association:
    - a. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting.
  11. NEC - National Electrical Code
  12. NECA – National Electrical Contractors Association:
    - a. NECA 101 – Standard for Installing Steel Conduit
    - b. NECA 102 – Standard for Installing Aluminum Rigid Metal Conduit.
    - c. NECA 111 – Standard for Installing Nonmetallic Raceways (RNM, ENT, LFNC).
  13. NEMA National Electrical Manufacturers Association:
    - a. TC 2 - Electrical Polyvinyl Chloride (PVC) Tubing and Conduit.
    - b. MG 1 - Motors and Generators.
    - c. PB 2 - Deadfront Distribution Switchboards.
    - d. ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2,000 Volts AC or 750 Volts DC.
    - e. 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum).
    - f. WC 5 - (See ICEA S-95-658).
    - g. WC 7 - (See ICEA S-95-658).
  14. NESC – National Electric Safety Code
  15. NFPA National Fire Protection Association
  16. OSHA Occupational Safety and Health Administration:
    - a. 29 CFR 1910 - Occupational Safety and Health Standards.

17. UL Underwriters' Laboratories, Inc.:
  - a. UL-6 - Rigid Metal Conduit.
  - b. UL-83 - Thermoplastic - Insulated Wires and Cables.
  - c. UL-360 - Liquid-Tight Flexible Steel Conduit.
  - d. UL-467 - Electrical Grounding and Bonding Equipment.
  - e. UL 486D - Insulated Wire Connector Systems for Underground Use or In Damp or Wet Locations.
  - f. UL-508 - Industrial Control Equipment.
  - g. UL-651 - Schedule 40 and 80 Rigid PVC Conduit.
  - h. UL-797 - Electrical Metallic Tubing.
  - i. UL-891 - Dead-Front Switchboards.
  - j. UL-1008 - Transfer Switch Equipment.
  - k. UL-1012 - Power Units Other Than Class 2.
  - l. UL-1277 - Electrical Power and Control Tray Cables With Optional Optical Fiber Members
  - m. UL-1449 - Surge Protection Devices
  - n. UL-1479 - Fire Tests of Through-Penetration Firestops.

## **1.6 DEFINITIONS**

- A. The terms defined below apply to all work included in Division 26.
  1. Work: The term "work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.
  2. Furnish: to obtain in new condition ready for installation into the work.
  3. Install: to store, set in place, connect, and place into operation into the work.
  4. Provide: to furnish and install.
  5. Connect: to bring service to the equipment and make final attachments including necessary switches, outlets, boxes, terminations, or other final connections.
  6. Conduit: in addition to conduit raceways; includes all fittings, pull boxes, hangers, supports, accessories, and all work related to such conduit.
  7. Concealed: hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces or buried.
  8. Exposed: not installed underground nor concealed as defined above.
  9. Underground: below finished grade or surface exterior of a building, outside of the building foundation.
  10. Under or Below Floor: below the finished floor inside the foundations or footprint of a building.
  11. Building structure or building structural members - consists of steel columns, steel beams, steel joists (top chord and at panel points), concrete walls and concrete block walls. Metal decking, joist bridging, and bottom chords of bar joists shall not be construed as building structure nor as a building structural member for the purpose of support.
  12. SCADA: supervisory control and data acquisition. Includes all control system programable components, software, visual displays, operator interaction devices, control panels, communications, telemetry and all other associated equipment for data acquisition, transmission, processing, monitoring, control, analysis, display, and alarming for an operating and specified control system.
- B. The drawing and specifications constitute the Contract Documents. Any item noted in the specification or shown on the drawings is part of the Contract Documents.

## 1.7 CONTRACTOR RESPONSIBILITIES

- A. Regulatory Requirements:
  - 1. Initiate, maintain, and supervise all safety precautions required with this work in accordance with the regulations of the Occupational Safety and Health Administration (OSHA) and other governing agencies.
- B. Environmental Requirements:
  - 1. Do not remove or disturb any asbestos containing materials from the project. Immediately stop work and notify the Owner if asbestos containing materials are suspected.
  - 2. Do not dispose of any PCB containing materials. Disposal of all PCB containing materials will be the responsibility of the Owner.
- C. Provide new, first quality material for all products specified. Do not reuse materials unless indicated or approved by the Engineer.
- D. Provide equipment specified in this section which is listed and labeled by a nationally recognized testing laboratory.
- E. Comply with ANSI as applicable to equipment specified in this section.
- F. Comply with NEMA as applicable to equipment specified in this section.
- G. The contractor shall field-verify all dimensions and notify the Engineer or Owner Representative of any conflicts or discrepancies, in writing, prior to submittals and installation. If prior notification is not provided, Contractor is responsible for resolution of all dimensional conflicts.
- H. The contractor is responsible for all revisions and changes required to any work needed for compliance with the national electrical code. This includes work to accommodate equipment which was approved as an equal, equipment or work Contractor provided which was not approved but later accepted, work already completed, or any other proposed adjustments to the Contract. Engineer approval of work, submittals, equipment, equals, work changes, or any other contract modifications does not grant the Contractor approval to exclude other work needed to ensure electrical code is still being met.
- I. Equipment provided with SCCR ratings/labels shall be provided with sufficient SCCR values to exceed the available short circuit current at the equipment connection point. Where short circuit current is not identified in the Contract Documents, the contractor is responsible for providing the necessary calculations for coordination.
- J. Include better quality, greater quantity or higher cost for an item or arrangement where a disagreement exists in the drawings and specifications. If multiple different scenarios, situations, or materials are proposed for a single item or design case, include the cost of all work for scenarios and situations included in the Contract Documents, unless noted otherwise.
- K. The contractor shall have knowledge of the latest edition of NFPA 70 (NEC) and additional governing codes. In addition to the work shown in the Contract Documents, Contractor shall provide all work to comply with these references. If there is a conflict with the Contract Documents and such governing codes, the Contractor shall alert the Owner Representative during the bidding review period and prior to the final questions date. If the Contractor fails to do so, additional services will not be awarded to the Contractor to perform work to correct issues which are conflicting with governing code requirements nor to satisfy the AHJ

inspection comments. All work is to be included in Base Bid or other work proposed to the Contract.

- L. Contractor shall notify Engineer or Owner Representative of issues or questions with ample time to allow Owner, Engineer, and designer to review and respond to the request before Contractor purchases and/or installs such equipment. By submitting a bid, the contractor agrees and acknowledges the Owner, Engineer, and Project Representative cannot and will not be held responsible for delays in the project or increases in costs due to Contractor failure to provide ample notice to allow review of and response to the potential issue. The acceptable duration of such ample notice will be determined by the Owner Representative, and duration will be based on the complexity of the request, however duration shall not at any time be expected to be less than 10 business days from the date the electrical Engineer of Record receives the request. In recognition of this, Contractor is to plan, coordinate and schedule construction accordingly. Failure to do so will result in a violation of the Contract.

## **1.8 PROJECT/SITE CONDITIONS**

### **A. Site Inspections:**

1. Before submitting a proposal on the work contemplated, examine the site of the proposed work, and become thoroughly familiar with existing conditions and limitations. No extra compensation will be allowed because of misunderstanding as to the amount of work involved nor the bidders' lack of knowledge of existing conditions which could have been discovered or reasonably anticipated prior to bidding.
2. Raceways, pipes, ducts, lights, devices, speakers, etc., shown on the drawings as existing have been based on existing plans and casual site observations, and may not be installed as originally shown. It is the Contractor's responsibility to visit the site and make an exact determination of the existence, location, and condition of such facilities prior to submitting a bid.

### **B. Correlation of Work:**

1. Consult the drawings and specifications of all other Divisions to correlate information and layout work so that it will coordinate with other trades. Verify dimensions and conditions (i.e., finished ceiling heights, footing and foundation elevations, beam depths, etc.) with all drawings. Notify the Engineer of any conflicts that cannot be resolved in the field by affected trades. Replacement of work due to lack of coordination and failure to verify existing conditions will be completed at no cost to the Owner.
2. Install all conduits, cable tray, busduct, equipment, etc. allowing proper code and maintenance clearances to avoid blocking passageways and access panels.
3. Where work must be replaced due to the failure of the Contractor to verify the conditions existing on the job, such replacement must be accomplished at no cost to the Owner. This applies to shop fabricated work as well as to work fabricated in place.
4. Throughout the course of the work, minor changes and adjustments to the installation may be requested by the Engineer. The Contractor shall perform adjustments without additional cost to the Owner, where such adjustments are necessary to the proper installation and operation within the intent of the Contract Documents. This does not include work already completed.
5. Obtain the exact location of connection to equipment, furnished by others, from the entity furnishing the equipment.

- C. The Contract Documents shall govern in the instances where requirements indicated are greater than those stated in the governing codes and standards.

## **1.9 FIRESTOPPING**

- A. Provide firestopping around all new penetrations, sleeves and openings through all partitions, walls, and floors.
- B. Provide UL listed components installed by certified and factory trained personnel.

#### **1.10 SEQUENCING AND SCHEDULING**

- A. Refer to General Conditions and Requirements.

#### **1.11 EQUIPMENT INSTRUCTIONS AND PARTS LITERATURE**

- A. Instruction and parts literature are generally packed with electrical equipment and devices. Contractors shall remove this literature from the packing container or equipment enclosure, identify the literature with the equipment to which it applies, and file the literature in loose-leaf binders with index tabs. Each binder shall have an index which lists each piece of equipment and the literature which applies to it. An index tab shall be provided for each piece of equipment.
- B. Contractors shall establish a procedure with the other trades for receiving, identifying, and filing literature for devices which are removed from their packaging and installed by other trades.

#### **1.12 SUBMITTALS**

- A. Submit the following items consistent with Division 0 and Division 1. Refer to each Section under Division 26 for additional submittal requirements particular to that Section.
- B. Prior Approvals:
  - 1. Submit approval form for each request for prior approval.
  - 2. Submittals shall be formally presented to the Owner Representative. Submittals presented to the Engineer prior to approval of the Owner Representative will not be reviewed or accepted.
  - 3. Submit electronic, written requests to use unspecified items, to the Engineer, no later than ten (10) business days prior to the bid opening. Submit detailed information for proposed material or equipment specific to the project, clearly indicating all options included in the submittal.
  - 4. Accepted substitutions will be incorporated in an Addendum to the Contract Documents.
  - 5. The contractor is responsible for dimensional differences, electrical requirements, and any other resulting changes, when using accepted substitutions. The contractor is responsible for any additional costs incurred because of substitutions, including other contractors and Engineer fees.
  - 6. Material and equipment not specified or accepted in an Addendum will be removed and replaced at no cost or inconvenience to the Owner.
- C. Work Scope Change:
  - 1. If a work scope change is requested and the Contractor would like to be awarded additional compensation or a deduct from original contract is requested, Contractor shall provide a schedule of values for all associated proposed work.
    - a. Pricing shall be grouped to represent each itemized work scope change.
    - b. Each piece of equipment shall be itemized, along with the cost of item. Labor to install said item shall be presented on a separate line item.
    - c. Provide a final lump sum number for all work associated with the change and individual pricing for each item on the schedule of values.
    - d. Engineer may request additional breakdown for improved clarity and Contractor must comply prior approval for the additional compensation or credit.



- e. Comply with the requirements set forth in Division 0 and Division 1.
- 2. The contractor shall provide actual manufacturer and distributor invoices or quotations showing the costs of material and work affected by the scope change upon request of the Engineer or Owner representative.
- 3. Contractor is solely responsible for delays in schedule where Contractor is required to resubmit documentation, revise requested documentation or provide additional information associated to gaining approval for the work scope change.
- D. Shop Drawings and Manufacturer's Information:
  - 1. Submit in accordance with Division 0 and Division 1. Unless noted otherwise, submit drawings to the Engineer for review within 30 calendar days after the award of Contract.
  - 2. Provide digital copy in a PDF format:
    - a. Files shall be accessible and neatly organized.
    - b. Provide a table of contents which utilizes bookmarks and links. The links shall take the reader to a specific page when the reader clicks on the desired title in the table of contents. A link shall be provided for materials associated with each piece of equipment included in the O&M manual.
    - c. Product literature which demonstrates compliance with the specifications shall be highlighted or otherwise identified to be easily found.
  - 3. Provide separate files for each submittal for each section. Combination submittals will be returned to the Contractor without review and count as 1 submittal. Do not combine submittals from multiple sections.
  - 4. Include project name, name of Engineer, contractor, sub-contractor, manufacturer, supplier, and sales representative, include name, address, and phone number for the sales representative. Clearly identify section number and description of equipment submitted. Shop drawings not including all this information will be returned without review, and count as 1 submittal.
  - 5. Examine all shop drawings noting capacity, arrangement, and physical dimensions. Clearly mark all relevant items on catalog data and cross-out unrelated information.
  - 6. Submittals for equipment provided by the Electrical Contractor shall bear a stamp or specific written certification from the Electrical Contractor, certifying the submittals have been reviewed and approved by the submitting Electrical Contractor.
  - 7. Provide the following manufacturer documentation:
    - a. Product Data Sheets:
      - 1) Product and component documentation that describe all equipment and devices proposed to be provided.
      - 2) Include all features specified.
      - 3) Provide dimensioned prints with weights.
      - 4) Highlight or otherwise accentuate on each document product numbers and description of product features which demonstrate compliance with the Contract Documents.
      - 5) Features or part numbers which do not apply shall be struck through, crossed out, blacked out, or otherwise identified as not applicable.
      - 6) Documentation which does not have such marking, and edits may be rejected and counted as one instance of Contract failure to meet submittal requirements and resubmit.
    - b. Composite Drawing:
      - 1) Power and control wiring diagrams for all systems and equipment. Control equipment to be provided with ladder type schematic diagrams.
      - 2) Show basic systems on composite drawing.

- 3) Use terminal numbers on drawings and schematics.
  - 4) Use separate drawings to show details of sub-systems.
  - 5) Identify sub-system drawing interface points on composite drawing and sub-system drawings; terminal numbers of interface points shall be the same on both drawings.
  - 6) Revise or redraw manufacturer's standard drawings to meet the above requirements.
  - 7) Documentation which does not have such marking, and edits may be rejected and counted as one instance of Contract failure to meet submittal requirements and resubmit.
- c. Record all Changes to Existing Systems:
    - 1) Revise all wiring diagrams and schematic diagrams to show final installation:
      - a) Includes all new and existing equipment diagrams.
  - d. Programmable Systems:
    - 1) Description of programmable system operation, including but not limited to input/output functions, control capabilities, configuration procedures, starting setpoints, etc.
    - 2) Preliminary graphic screens and reports.
      - a) This submittal shall occur prior to shipment of the system.
  - e. Manufacturers Installation Instructions:
    - 1) Include with shipment.
- E. Operating and Maintenance Manuals:
1. Include all the information provided with the approved shop drawings and manufacturer's information.
    - a. Update and complete control system drawings and descriptions for all equipment.
    - b. All documentation shall include modifications made which reflect the final installation.
    - c. Provide complete testing reports.
  2. Date the manuals with the day, month, and year they are provided to the Owner/Engineer.
  3. Provide manufacturers' user manuals and installation instructions.
  4. Provide 2 digital copies in a PDF format saved to a USB drive. The saved files shall be clearly identified and organized in a similar manner to the hard copies.
    - a. Digital files to be accessible and neatly organized.
    - b. Provide a table of contents which utilizes bookmarks and links. The links shall take the reader to a specific page when the reader clicks on the desired title in the table of contents. A link shall be provided for materials associated with each piece of equipment included in the O&M manual.
  5. Record all Changes to Existing Systems
  6. Insert revised documents into the Owner's existing operation and maintenance manuals in place of original documents, if such O&Ms exist.
- F. Record Documents:
1. Provide two digital pdf copies.
  2. To be provided with the O&M's.
  3. Record drawings shall include all work scope changes, including addenda.
  4. Record drawings shall show locations of all above ceiling control devices, such as relays, contacts, control modules, monitor modules, power packs, fire/smoke detection equipment, etc.
  5. Refer to Contract Documents for additional Record Drawing requirements.

## **PART 2 PRODUCTS**

### **2.1 EQUIPMENT AND MATERIALS**

- A. All electrical and control equipment and materials shall be provided as specified in the Contract Documents.
- B. Where applicable, equipment and materials shall conform to ANSI, ICEA, IEEE, and NEMA Standards.
- C. All equipment and materials shall be new and shall bear the Underwriters Laboratories (UL) label if UL labels such product types. If UL does not label the product type, UL listed will be then required and documentation of such listing shall be provided. If UL does not label or list the product the type, other third-party testing agency certification which is recognized and accepted by the most recent published version of the national electrical code (NFPA 70) will be allowed.

### **2.2 TAMPERPROOF HARDWARE**

- A. Where tamperproof hardware is called out, provide torx head with center pin reject hardware for the following electrical work:
  - 1. Light fixture housings
  - 2. Covers to electrical enclosures, pull boxes, cabinets, junction boxes, wireways.
  - 3. Cover plates (both maximum security and stainless-steel cover plates)

## **PART 3 EXECUTION**

### **3.1 CONSTRUCTION LIGHTING & POWER SYSTEM - REMODELING**

- A. Provide construction power and lighting that adheres to the NEC Article 590 – “Temporary Installations.”
- B. Refer to Division 1 for temporary electrical services.
- C. For remodeling work in the existing building, use existing building distribution systems for construction power.
- D. Replace all receptacles, switched, cover plates, etc., damaged by any Contractor during construction.
- E. Materials furnished for the temporary light and power system remain Contractor’s property. Remove when there is no longer any need for temporary light and power or when directed by the Project Representative.
- F. The Owner shall pay electrical energy costs.

### **3.2 PREPARATION**

- A. Continuity of Service:
  - 1. No Division 26 systems are to remain inactive at the end of the workday. Assure that the systems are all operational at the end of each workday. Coordinate temporary outages with the Owner.
  - 2. Coordinate/schedule all work with the Owner to minimize any disruptions. Confine all interruptions to the smallest possible area. Provide temporary connections if required to provide continuity of service.

3. Inspect all areas affected by the interruptions and return all automatically controlled equipment, electrically operated equipment to the same operating condition prior to the interruption.
- B. Use of Facility:
1. Do not disturb normal use of the facility, except within the immediate construction area. Keep walks, driveways, entrances, etc. free and clear of equipment, material, and debris.
  2. Store all equipment and material in a place and manner that minimizes congestion and is approved by the Owner.

### **3.3 INSTALLATION**

- A. Material and Workmanship
1. Provide new material and equipment, unless noted otherwise. Protect equipment and material from damage, dirt, and the weather.
  2. Provide the highest quality workmanship and perform all work only by skilled mechanics. Install material and equipment in accordance with manufacturers' recommendations, instructions and current NECA standards.
  3. The Engineer reserves the right to reject material or workmanship not in accordance with the specifications, before or after installation.
  4. Engineer and Owner have the right to determine if equipment, boxes and covers are not accessible. Where electrical work is determined to be not accessible, Contractor shall modify the work as directed at no additional cost to the Owner.
- B. Excavation and Backfilling:
1. Provide all excavation and backfilling required to complete the installation of the electrical system. Conform with the provisions of Division 31 Earthwork of these specifications for all work.
  2. Bed all conduit and structures on a 6" thick compacted layer of granular material. Should unsatisfactorily soil conditions be discovered, the Owner Representative will inspect the excavation and determine the necessary additional support required.
  3. Backfill around raceways and structures by hand using coarse sand, pit run gravel or the native material if it is like the above. Remove all large stones, frozen lumps, perishable rubbish, and excessive amounts of clay. Carefully compact this material in 6" layers to a depth of 8" above the conduit, cable, or duct. Compact to not less than 90% outside the building and 95% within the building limits of maximum density given by ASTM D698-70T (Standard Proctor Density). Owner Representative reserves the right to require soil compaction tests in any areas which do not appear to be compacted properly with the cost of the test paid by the Contractor.
  4. Replace all existing surface improvements (i.e., street pavement, curbs, sidewalks, finish sodding, etc.) removed or damaged in the course of the work unless such improvements are to be reconstructed under the general contract. Make all necessary arrangements to perform such repairs, pay all costs in connection therewith and include them in the bid.
- C. Cutting and Patching:
1. Perform all cutting and patching necessary to work, unless specifically delegated to be performed under a different Division.
  2. Obtain special permission from the Engineer before cutting structural members or finished material.
  3. Perform all patching in a manner as to leave no visible trace and return the affected area back to the condition undisturbed before work began. All patch work to be performed by

workers experienced, skilled, and licensed for the work involved. Work deemed unacceptable by the project Owner Representative will not be accepted.

4. Patch all holes left because of demolition of electrical equipment and devices.
5. Drill all holes in masonry with rotary drill. Impact tools are not allowed. Core drill all holes in masonry and concrete for electrical raceway. Provide and dispose of all water required for core drilling. Coordinate with other trades to prevent damage from water.
6. Prevent the spread of dust, debris, and other material into adjacent areas.
7. Replace all ceiling tiles damaged during installation work with new tile.

D. Painting:

1. Refinish all electrical equipment damaged during shipping and/or installation to its original condition. Remove all rust; prime, and paint per manufacturer's recommendations for finish equal to original.

E. Coordination:

1. Coordinate the location of all outlets and the associated equipment with all facility systems before installation.
2. Coordinate all door swings in the field before locating devices.
3. The contractor shall be responsible for obtaining the exact dimensions, locations, electrical ratings, and termination requirements of equipment furnished by others, from the entity furnishing or supplying the equipment.
4. If the conduit, wiring, or other equipment cannot be installed per the contract documents, including but not limited to installing concealed or in a designed space, Contractor shall notify the project Engineer or Owner Representative prior to submitting on proposed equipment and prior to starting installation of such equipment.
5. Coordinate all equipment dimensions before submitting equipment. This includes all shop fabricated work as well as work fabricated in place. It shall be assumed that equipment submitted have been coordinated by the Contractor and the act of submitting the documents indicates Contractor and all trades have verified equipment will fit in allocated location space.
6. If the Contractor believes there is, or finds a workspace issue, Contractor shall notify project Engineer or Owner Representative prior to submitting on such equipment. Replacement or modification of equipment and/or modifications in the surrounding space it is to be installed, shall be completed by the Contractor at no additional cost to the Owner due to lack of the contractor coordination and the contractor failure to spend the energy and resources to verify the existing conditions.

### **3.4 FIRESTOPPING**

- A. Provide firestopping around all new penetrations, sleeves and openings through all partitions, walls, and floors.
- B. Install firestopping on both sides of each partition, completely filling the void around the opening.
- C. The firestopping of interior of conduits and sleeves is by the contractor providing the cabling inside the conduit or sleeve.

### **3.5 RECEIVING AND STORING EQUIPMENT**

- A. All equipment shall be handled and stored in accordance with the manufacturer's instructions.
- B. In general, equipment packaging is not designed to protect the contents for outdoor storage. As a minimum, Contractor shall store the equipment prior to installation in a clean, dry

location free from excessive temperatures, humidity, or foreign materials normally encountered at a Site. If the storage facility is unheated, Contractor shall provide heating to protect equipment from condensation, which could cause components to corrode or to be otherwise damaged.

### **3.6 EQUIPMENT MOUNTING**

- A. Unless noted otherwise, equipment which is not free-standing shall not be mounted on wood panels, but shall be attached to concrete or masonry walls, support channels, or building structural steel.

### **3.7 FIELD QUALITY CONTROL**

- A. Refer to Contract Documents for additional requirements.
- B. Final Observation:
  - 1. A final inspection of the electrical systems will be required before the Contract can be closed out. Request a final inspection by the Engineer after all systems are fully completed and operational. The Engineer will schedule an observation and generate a list of items to be corrected or completed before Contract Closeout. If the Contractor notifies the Engineer the work is ready for final observation, final evaluation of control systems, or commissioning exercise by the Contractor, and the Engineer finds the work is not complete enough to perform that observation, the Contractor will compensate the Engineer time used. The Contractor will then perform the necessary work to complete the project and again request a Final Observation.

### **3.8 CLEAN UP**

- A. Keep the premises free from accumulation of waste material or rubbish, caused by his employees or work, always. Remove rubbish, tools, scaffolding, and surplus materials from and about the building, and leave work areas "broom clean" or its equivalent upon completion of the work. Clean electrical equipment and remove temporary identification. In case of dispute the Owner will remove the rubbish and charge the cost to the Contractor.
- B. After tests have been made and are accepted, the Contractor shall clean light fixtures, panels and other equipment installed by the Contractor, leaving the entire work area in a clean and complete working order.

### **3.9 PROTECTION**

- A. Cover openings and equipment, where set, to prevent obstruction to raceways and boxes, breakage, misuse, or disfigurement of equipment. Cover openings in equipment immediately upon uncrating or receipt at the job site and keep covered until permanent connection is made.
- B. The contractor is responsible for any damage to electrical equipment or materials until final acceptance of the entire project by the Owner. Keep all equipment clean materials until final acceptance of the entire project by the Owner.
- C. If a portion of the project is to be occupied by the Owner prior to Substantial Completion of the entire project, Owner Representative will schedule with the contractor and have final decision when to transfer responsibilities for protection and housekeeping.

**END OF SECTION**

## **SECTION 26 05 19**

### **CONDUCTORS AND CABLES**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes, but not limited to:
  - 1. Wire
  - 2. Metal Clad (MC) Cable
  - 3. Retractable (Coiling) Cords
  - 4. Retractable Corded Reels
  - 5. Variable Frequency Drive Cable.
  - 6. Multi-conductor Instrument Cable.
  - 7. Vehicle Detection Loop.
  - 8. Direct Burial Cable.
  - 9. Data Cabling.
  - 10. Optical Fiber Cable.
  - 11. Specialty Cable.
  - 12. Terminals and connectors.
  - 13. Installation.
  - 14. Splices, Taps, and Terminations.
  - 15. Identification.

##### **1.2 REFERENCES**

- A. Section 26 05 00: Common Work Results for Electrical

##### **1.3 SUBMITTALS**

- A. Submit shop drawings and descriptive data in accordance with Section 26 05 00.

#### **PART 2 PRODUCTS**

##### **2.1 WIRE**

- A. All wire and cable shall be:
  - 1. New and coiled or on reels.
  - 2. Each coil and/or reel shall have a label with the manufacturer's name, trade name of wire, size of wire, and UL label.
- B. Provide conductors with a 90°C insulation system, 600-volt rating, U.L. approved and listed for specific application.
- C. Feeder and Branch Circuit Wire:
  - 1. Stranded conductor, unless noted otherwise.
    - a. Solid copper conductors are to be used for lighting and convenience receptacle circuits.
  - 2. THWN insulated for conductor sizes #4 AWG and smaller.
  - 3. XHHW or THWN insulation for conductor sizes #3 AWG and larger.

- D. Provide minimum No. 12 AWG conductor size, unless noted otherwise.
  - 1. Where noted conductors used for control to/from field devices may be less than 12AWG in size providing the following requirements are met:
    - a. Unless otherwise specified elsewhere in these specifications, control wiring shall be not less than No. 14 AWG.
    - b. Control wiring shall be sized such that the voltage drop under in-rush and continuous operation conditions does not adversely affect operation of the controls.
- E. All conductors to be copper; aluminum conductors will not be allowed.

## 2.2 WIRE COLOR CODING

- A. Contractor may use color coding at his discretion, except for the following colors, which shall be used only as designated below for both power and control circuits.

- 1. Control Circuits

- a. Dark Blue - Direct current circuits.
  - b. Light Blue - Intrinsically safe conductors.
  - c. Green - Grounding conductor.
  - d. White - Neutral conductor.

- 2. Power Circuits

	120/240V	208Y/120V	480Y/277V
Phase A	Black	Black	Brown
Phase B	Red	Red	Orange
Phase C		Blue	Yellow
Neutral	White	White	Gray
Ground	Green	Green	Green

- 3. Use solid colors through Size No. 8 AWG.
- 4. Use black conductors with tape color identification No. 6 AWG and larger.

## 2.3 TERMINALS AND CONNECTORS

- A. Tool compressed terminals and connectors shall be made of 1 piece seamless highly conductive copper with a uniform tin-plate coating to minimize corrosion.
- B. Step-down adapters shall be copper compression type.
- C. Electrical spring connectors:
  - 1. Solderless, screw-on, reusable pressure cable type, with integral insulation, approved for application used.
  - 2. The integral insulator shall have a skirt to completely cover the stripped conductors.
- D. Electrical push-in connectors:
  - 1. Nylon/PC housing material.
  - 2. Copper contacts with tin plating.
  - 3. Rated for 221-degree F.
  - 4. 2,3 or 4 port as needed per circuit. Do not provide unused ports.
  - 5. Sized per wire gauge.



6. To be used with wire gauge 12 and smaller.
  7. UL Listed.
  8. Manufacturer:
    - a. Ideal
    - b. Or pre-approved equal.
- E. Fork Terminals:
1. Vinyl or nylon self-insulated locking type.
  2. Terminal insulation that supports wire insulation.
  3. Manufacturer:
    - a. Thomas & Betts Type FL
    - b. Burndy Type TP-LF
    - c. Panduit Type PNF
    - d. 3M Type MNG.
- F. Electrical Tape:
1. UL Listed.
  2. Weather resistant.
  3. Moisture resistant vinyl.
  4. Rated for the voltage system which it is applied.
  5. Temperature rating suitable for the application where it is applied.
- G. Motor Connection Kit:
1. UL Listed.
  2. Qualified to ANSI standards.
  3. Rated to withstand 1000V.
  4. For use on in-line or stub motor lead splices.
  5. Resistant to abrasion.
  6. Installed per manufacturer's recommendations.
- H. Underground Splices for No. 10 AWG and Smaller:
1. Solderless, screw-on, reusable pressure cable type, with integral insulation. Listed for wet locations and approved for copper and aluminum conductors.
  2. The integral insulator shall have a skirt to completely cover the stripped conductors.
  3. The number, size, and combination of conductors used with the connector, as listed on the manufacturer's packaging, shall be strictly followed.
- I. Underground Splices for No. 8 AWG and Larger:
1. Mechanical type, of high conductivity and corrosion-resistant material. Listed for wet locations and approved for copper and aluminum conductors.
  2. Insulate with materials approved for the particular use, location, voltage, and temperature. The insulation level shall be not less than the insulation level of the conductors being joined.
  3. Splice and insulation shall be products of the same manufacturer.

## **2.4 CONDUCTOR PULLING COMPOUND**

- A. Rated for use with conductor insulation and conduit material.
- B. Non-conductive.
- C. Non-cementing.
- D. Dry to a fine lubricating powder or a thin film which does not harden in conduit.
- E. UL Listed.
- F. Rated for repeated exposure to high heat or freezing temperatures.

### **PART 3 EXECUTION**

#### **3.1 WIRE INSTALLATION**

- A. Install conductors in accordance with the NEC, as specified, and as shown on the drawings.
- B. Install all conductors in a continuous raceway system.
- C. Splice conductors only in outlet boxes, junction boxes, pull boxes, manholes, or handholes.
- D. Pulling compound shall be approved by the cable manufacturer.
- E. Conductors of different voltage systems shall not be installed in the same raceway.
- F. Examine all wires before installation. Do not use any wire with insulation that is damaged in any way.
- G. Do not pull wire into the conduit until the conduit system is complete. Pull all conductors into the raceway at the same time.
- H. Adequate measures are to be employed to determine that the raceways are free of foreign material and moisture before pulling wire or cable.
- I. Test all cable and wire for continuity and for shorts prior to energizing any circuits.
- J. Conductors shall extend at least 4" past the point of the cover on any junction or pull box installed.
- K. For connections to motors, transformers, and vibrating equipment, stranded conductors shall be used only from the last fixed point of connection to the motors, transformers, or vibrating equipment.
- L. Conductors shall be without splice from termination to termination, unless indicated otherwise on the Drawings.
- M. Provide an equipment grounding conductor with each circuit.
- N. The use of a shared neutral on multiwire branch circuits will not be allowed. Each circuit shall be provided with its own neutral conductor(s), unless noted otherwise in the Contract Documents.
- O. The contractor shall provide conductors with the appropriate rating and quantity for each circuit.
  - 1. Voltage Drop Calculations:
    - a. Wire shall be sized for a voltage drop no greater than 2% measured for circuits used to feed panelboard, distribution panels, switchboards, and service equipment.
    - b. Wire shall be sized for a voltage drop no greater than 3% measured from the feeder panelboard or switchgear to its point of load termination.

- c. Contractor shall provide documentation of voltage drop calculations upon request of Engineer or Owner.
- 2. Where multiple conductors are used in a shared raceway, conductor ratings shall be derated per the NEC.
- 3. Where conductor sizes are specified in the Contract Documents, these sizes are based on copper conductors.

### **3.2 SPLICES, TAPS AND TERMINATIONS**

- A. Splices to feeders and service entrance conductors are not permitted unless specifically noted on the plans.
- B. Electrical spring connectors shall be used for splices and taps in lighting and 120-volt receptacle circuits and motor leads #10AWG or smaller.
- C. Use pressure or compression type connectors for all splices or taps in copper conductors.
- D. Do not splice conductors of dissimilar metals together.

### **3.3 IDENTIFICATION**

- A. Control circuits may be color-coded using available colors, except gray and green. They shall be identified at each terminal at the respective control panel with a label. Imprinted labels shall be protected by a heat shrinkable sleeve.
- B. Each control circuit shall be identified at both ends with the same number; the wire number shall be the same as the wire number shown on the Contractor's Equipment Drawings. Spare conductors shall also be identified.

**END OF SECTION**

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## **SECTION 26 05 26**

### **GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**

#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Grounding Electrode System
- B. Equipment grounding
- C. Transformer grounding.
- D. Grounding of technology, security, and data rooms.
- E. Bonding of new building additions
- F. Bonding of Pool Equipment
- G. Patient Room Grounding and Bonding
- H. Swimming Pools, Fountains, and Similar Installations.

#### **PART 2 EQUIPMENT**

##### **2.1 GROUND RODS**

- A. Luminaire Concrete Bases:
  - 1.  $\frac{3}{4}$ " x 15' long copper weld, unless noted otherwise.

##### **2.2 GROUNDING CONNECTORS**

- A. Clamps and pressure connectors.
  - 1. Clamps for connection to piping and conduit:
    - a. Approved Manufacturer:
      - 1) OZ Gedney type ABG
      - 2) Burndy "Hyground"
      - 3) Thomas & Betts "Blackburn" Series.
  - 2. Clamps for connection to enclosures and bus work:
    - a. Approved Manufacturer:
      - 1) OZ Gedney type KGM
      - 2) Burndy "Hyground"
      - 3) Thomas & Betts "Blackburn" Series.
  - 3. Bar taps for connection to bus bars which are UL listed (UL-467).
    - a. Approved Manufacturer:
      - 1) OZ Gedney type KGM
      - 2) Burndy "Hyground"
      - 3) Thomas & Betts "Blackburn" Series.
- B. Welded connections using non-reversable exothermic process:
  - 1. Approved Manufacturer:
    - a. Cadweld

- b. Thermoweld.

### **PART 3 EXECUTION**

#### **3.1 INSTALLATION**

- A. Raceways provided for grounding electrode conductors shall be rigid nonmetallic.
- B. The conductor shall be connected to the equipment ground bus or to the enclosure if there is no ground bus.
- C. Separately derived systems shall be grounded in accordance with NFPA 70.
- D. The grounding bushings on conduits entering distribution equipment shall be connected to the ground bus in accordance with the requirements of NFPA 70.

#### **3.2 EQUIPMENT GROUND**

- A. Solidly ground all conduit systems, switch boxes, cabinets, motor frames, switchgear, transformers, and all other permanently installed equipment to form a continuous, permanent, and effective grounding system. Bond expansion joints and metal raceway sections.
- B. An equipment grounding conductor shall be installed with each conduit run or cable, including but not limited to feeder circuits, motor circuits, lighting circuits, and control circuits.

#### **3.3 BONDING**

- A. Bond all systems per the NEC including raceway, cable tray, enclosures, metal piping systems, structural metal, and other items identified in the Contract Documents or the National Electrical Code.

#### **3.4 SPECIAL REQUIREMENTS**

- A. The contractor shall determine if there are any other special grounding requirements for equipment furnished on this Project and shall provide grounding as recommended by the manufacturer.

#### **3.5 SPLICES AND TERMINATIONS**

- A. In general, splices and terminations of the grounding electrode system shall be brazed, shall be exothermic welded, or shall be made with tool-compressed fittings.
- B. Connections to bus bars or equipment enclosures shall be made with tool-compressed lugs which are bolted to the equipment or with bar taps.
- C. Provide a #1/0 AWG (minimum) grounding conductor from each ground bar to electrical service grounding electrode.
- D. Connections to ground rods shall be exothermic welded. Provide adapter sleeves as required for #6 AWG conductors or smaller.
- E. Connections to copper water piping shall be made with ground clamps.

**END OF SECTION**

**SECTION 26 05 29**  
**SUPPORTING DEVICES**

**PART 1 GENERAL**

**1.1 SECTION SUMMARY**

- A. Manufactured Supporting Devices.
- B. Fabricated Supporting Devices.
- C. Installation.

**1.2 DESCRIPTION OF WORK**

- A. Type of support hardware, anchors, sleeves, and seals specified in this section include the following:
  - 1. Clevis hangers
  - 2. Riser clamps
  - 3. C-clamps
  - 4. I-beam clamps
  - 5. One-hole conduit straps
  - 6. Two-hole conduit straps
  - 7. Round steel rods
  - 8. Expansion anchors
  - 9. Toggle bolts
  - 10. Wall and floor seals
- B. Supports, anchors and sleeves furnished as part of factory-fabricated equipment, are specified as part of equipment assembly in other Division 26 sections.

**1.3 QUALITY ASSURANCE**

- A. Provide supporting devices, of types, sizes, and ratings required that are manufactured by firms regularly engaged in the manufacture of such devices.
- B. Comply with NEC as applicable to construction and installation of electrical supporting devices.
- C. Comply with applicable requirements of ANSI/NEMA std Pub No. FB 1, "Fittings and Supports for Conduit and Cable Assemblies".
- D. Comply with National Electrical Contractors Association's "Standard of Installation" pertaining to anchors, fasteners, hangers, supports, and equipment mounting.
- E. Provide electrical components which are UL-listed and labeled.

**PART 2 PRODUCTS**

**2.1 MANUFACTURED SUPPORTING DEVICES**

- A. Provide supporting devices; complying with manufacturer's standard materials, design, and construction in accordance with published product information, and as required for a complete installation; and as herein specified. Where more than one type of device meets indicated requirements, selection is Installers' option.

- B. Provide support and anchors constructed of stainless steel, PVC, or equivalent corrosion resistant material in chemical storage rooms.
- C. Structural flat surfaces:
  - 1. Caddy snap close clamp with z shot-fire bracket; mechanical fastener appropriate for deck type; spring steel, snap close conduit opening, static load of 100lbs or greater may be used with conduit sizes equal to and between 0.5" and 1".
  - 2. Caddy bolt close clamp with z shot-fire bracket; mechanical fastener appropriate for deck type; spring steel, conduit strap with threaded openings and hex-head bolt, static load of 100lbs or greater may be used with conduit sizes equal to and between 0.5" and 1".
  - 3. One-hole conduit straps for supporting metal conduit; galvanized steel may be used with conduit sizes equal to and between 0.5" and 0.75".
  - 4. Two-hole conduit straps for supporting metal conduit; galvanized steel to be used with conduit sizes equal to and larger than 1".
- D. Beam flange:
  - 1. Caddy clip for supporting conduit to beam flanges; spring steel, snap close conduit opening, static load of 75lbs or greater may be used with conduit sizes equal to and between 0.5" and 0.75".
  - 2. Beam Clamp; steel; mechanical bolt fastener to beam; conduit strap with threaded holes and hex-head bolt may be used with conduit sizes equal to and between 0.5" and 1.5".
  - 3. Right angle conduit clamp: cast iron hot dipped galvanized; U-bolt with treaded ends and hex-head nuts may be used with conduit sizes equal to and between 2" and 4".
  - 4. One-hole conduit straps for supporting metal conduit; galvanized steel may be used with conduit sizes equal to and between 0.5" and 0.75".
  - 5. Two-hole conduit straps for supporting metal conduit; galvanized steel to be used with conduit sizes equal to and larger than 1".
- E. Rod Type Hangers:
  - 1. Clevis type hangers; with diameter hole for round steel rod.
  - 2. Hexagon nuts on both ends of rod:
    - a. Conduit size 0.5"-1.5": Minimum rod size 3/8".
    - b. Conduit size 2" to 3.5": Minimum rod size 1/2".
    - c. Conduit size 4"-5": Minimum rod size 5/8".
  - 3. C-clamps for supporting rods to beam flanges; mechanical bolt fastener.
  - 4. Galvanized steel for dry location inside buildings. Corrosion resistant material when used in corrosive spaces and outdoors.
- F. Provide anchors of types and sizes indicated:
  - 1. Expansion Anchors: 1/2"
  - 2. Toggle Bolts: Springhead; 3/16" x 4"
- G. Provide channel strut system for supporting electrical equipment, 16-gage hot dip galvanized steel, or types and sizes indicated; construct with 9/16" dia. holes, 8"o.c. on top surface, with standard green finish, and with the following fittings which mate and match with channel provided:
  - 1. Fixture hangers



2. Channel hangers
  3. End caps
  4. Beam Clamps
  5. Wiring stud
  6. Thin wall conduit clamps
  7. Rigid conduit clamps
  8. Conduit hangers
  9. U-bolts
- H. Roof supports
1. Cooper B-Line Dura-Blok or equal.

## **2.2 FABRICATED SUPPORTING DEVICES:**

- A. Provide sleeves of one of the following:
1. Sheet-metal fabricated from galvanized sheet metal; round tube closed with snap lock joint, welded spiral seams, or welded longitudinal joint. Fabricate from the following gages: 3" and smaller, 20 gage; 4" to 6", 16 gage; over 6", 14 gage. Sheet metal sleeves shall not be used for cable.
  2. Steel-Pipe fabricated from Schedule 40 galvanized steel pipe; remove burrs.
  3. Iron-Pipe fabricated from cast-iron or ductile-iron pipe; remove burrs.

## **2.3 SLEAVES, SEALS AND CAULK**

- A. Sleeves:
1. Conduit sleeves to be 1.5" larger than O.D. of conduit.
  2. Set all sleeves true to line, grade, and position and plumb or level after concrete is poured. Correct any deviation from proper position.
  3. Sleeves to be anchored to structure.
- B. Seals:
1. Provide factory-assembled wall and floor seals. Provide watertight seals around conduit, pipe, or tubing passing through concrete below grad floors and wall. Construct with steel sleeves, malleable iron body, neoprene sealing grommets and rings, metal pressure rings, pressure clamps, and cap screws.
  2. Subject to compliance with requirements, provide water-tight seals by:
    - a. Thunderline
    - b. Pre-approved equal.
- C. Fire sealant and caulk
1. Caulk spaces between pipe and floor sleeves inside the building with a waterproof caulking material. Caulk spaces between pipe and exterior partition sleeves with glass fiber insulation.
  2. Furnish sealable penetration pockets compatible with the building roofing system where conduits pass through the roof. Turn pockets over to the Owner Representative.
  3. Provide fire barrier sleeve seals for sleeves located in floor and firewalls. Provide approved fire barrier material.

4. Provide minimum of 4-hour fire barriers around conduit, pipe, tubing, bus ducts and cables passing through smoke and fire rated floors and walls. Fire sealant to be red when cured.
5. Subject to compliance with requirements, and if not specified elsewhere fire sealant to be:
  - a. 3M CP25WP+
  - b. 3M 3000WT
  - c. Dow Corning Firestop 700
  - d. General Electric

### **PART 3 EXECUTION**

#### **3.1 INSTALLATION OF SUPPORTING DEVICES**

- A. Install hanger, anchors and sleeves in accordance with manufacturers' written instructions and with recognized industry practices to ensure supporting devices comply with requirements of NECA, NEC and ANSI/NEMA. Extend sleeves 3/4" above floor surface.
- B. Coordinate with other electrical work, including raceway and wiring work, as necessary to interface installation of supporting devices with other work.
- C. Install hangers, supports, clamps and attachments to support piping properly from building structure. Support suspended conduit runs threaded rod and galvanized conduit hangers. Attach the hanger rod to concrete structural members with malleable iron inserts, to existing or precast concrete structural members with self-drilling anchors, to structural steel with steel "C" clamps, and to wood with suitable sized lag screws and angles. Support multiple parallel conduit runs on trapeze hangers constructed of steel rod hangers and structural channel. Include three (3) nuts jam-locked, on all threaded rod hangers, to rigidly support the conduit. Install supports with maximum spacings indicated.
- D. Support surface mounted conduit runs with galvanized pipe straps. Fasten pipe straps to masonry surfaces with self-drilling anchors or toggle bolts. Fasten pipe straps to wood or sheet metal surfaces with pan head sheet metal screws.
- E. Support wall mounted electrical equipment on 3/4" thick C-D exterior fir plywood painted with two (2) coats of ASA-49 gray enamel.
- F. Provide stainless steel screws where electrical equipment is mounted on or attached to fire treated plywood. Hold equipment away from the plywood with either plastic or stainless-steel washers or spacers.
- G. Support all ceiling mounted receptacles with a listed tile bridge spanning the suspended ceiling grid, plus a 1/4" threaded rod anchored to a structurally sound member directly above the outlet box.
- H. Tighten sleeve seal nuts until sealing grommet have expanded to form water-tight seal.
- I. Provide finish of supporting devices in the chemical storage room as follows:
  1. Provide PVC-coated galvanized concrete inserts and pipe straps.
  2. Provide stainless steel for all bolts, nuts, washers, and screws.
  3. Provide PVC-coated individual hangers and trapeze hangers.
  4. Provide individual galvanized rods with two (2) coats of epoxy paints.

### **3.2 LIGHT FIXTURE SUPPORTS**

- A. Securely support all light fixtures directly from building structural members or 1-1/2" or larger steel ceiling framing channels. Use steel channel where it is necessary to span the building structural members for equipment support.
  - 1. Wood supporting members or wires will not be acceptable.
  - 2. Provide minimum 1/4" diameter lag screws when anchoring into wood structural members. Penetrate wood structural members a minimum of 2" with all screws.
  - 3. Provide steel expandable type, anchors with minimum penetration of 1-1/2" when anchoring to concrete.
  - 4. Do not suspend any conduit, light fixtures, or ballasts from metal roof deck or from the ceiling suspension wires. Support all lay-in fixtures independent of the ceiling support system.
    - a. In lay-in ceilings provide fastening clips on each corner of each fixture.
    - b. Where fixture suspension wires are required, wires shall be fastened to a structural member directly above or no greater than a 5-degree angle from the light fixture corner of which it is fastened to.
    - c. Fixture suspension wires shall be provided so that fixture is not allowed to drop more than 1" if ceiling would happen to collapse.
- B. Equip all fixtures using conduit stems with ball swivel hangers. In finished areas, provide canopies for the hangers.
- C. Support all surface mounted fixtures with a minimum of one hanger per fixture plus one per row. Support individual fixtures with a minimum of two hangers. Attach fixture hangers to the ceiling grid per code.
- D. Support all suspended fixtures with a minimum of two fixture hangers. Attach each hanger to a dedicated anchor. Locate hangers directly above the corners of the light fixtures.

**END OF SECTION**

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**SECTION 26 05 33**  
**RACEWAYS, FITTINGS AND BOXES**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. Conduit.
  - 2. Conduit fittings.
  - 3. Conduit accessories
  - 4. Underground warning tape.
  - 5. Pull and junction boxes.
  - 6. Fire stop material.
  - 7. Handholes.
  - 8. Conduit Identification.
  - 9. Execution/Installation.

**1.2 REFERENCES**

- A. Section 07 84 00: Firestopping.
- B. Section 26 05 00: Common Work Results for Electrical
- C. Section 26 05 26: Grounding and Bonding for Electrical Systems
- D. Section 26 05 29: Supporting Devices
- E. Section 26 27 26: Wiring Devices
- F. Section 33 05 05: Trenching and Backfilling.

**1.3 SUBMITTALS**

- A. Submit shop drawings and descriptive data in accordance with Section 26 05 00 in addition to the requirements of this section.

**PART 2 PRODUCTS**

**2.1 STEEL RIGID METAL CONDUIT (RMC) AND FITTINGS.**

- A. Provide hot-dip galvanized or electro-galvanized (inside and outside) conduit having a bichromate finish conforming to UL standard UL-6.
- B. Provide zinc coated, threaded type fittings, couplings, and bushings.

**2.2 INTERMEDIATE METAL CONDUIT (IMC) AND FITTINGS.**

- A. Provide hot-dip galvanized steel conduit conforming to UL Standard 1242 and Federal Specification WW-C-581E.
- B. Provide zinc coated, threaded type fittings, couplings, and bushings.

**2.3 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS.**

- A. Electro-galvanized tubing that meets UL Standard UL797, with the interior having a smooth coating of aluminum lacquer or enamel.

- B. Do not thread tubing.
- C. Provide concrete-tight steel compression or set-screw type fittings. Cast or indentor type fittings are not acceptable.

#### **2.4 RIGID NON-METALLIC CONDUIT (RNMC) AND FITTINGS.**

- A. Schedule 40/80 polyvinyl chloride (PVC) rigid plastic conduit conforming to NEMA Specifications TC-2.
- B. Provide plastic fittings, couplings, and bushings per manufacturer's recommendations for rigid non-metallic conduit, designed for use with solvent cement.

#### **2.5 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC) AND FITTINGS.**

- A. Metallic conduit covered with an extruded, polyvinyl chloride sheath.
- B. Provide steel or malleable iron, water-tight type fittings, couplings, and bushings approved for use with liquid-tight flexible metal conduit. Cast type devices are not acceptable.

#### **2.6 FLEXIBLE METAL CONDUIT (FMC) AND FITTINGS.**

- A. Hot-dip galvanized tubing conforming to U.L. Standard ULI.
- B. Provide steel or malleable iron type fittings, couplings, and bushings. Cast type devices are not acceptable.

#### **2.7 OUTLET AND JUNCTION BOXES**

- A. Galvanized code gauge metal outlet and junction boxes with screw-on covers of type, shape and size listed for each application.
- B. Gasketed covers in damp and dusty locations, and where required to meet the listed use (i.e. wet locations).
- C. Cast metal boxes (FS and FD) for all locations where IMC and RMC is used.
- D. Minimum trade size of four inch (4") square boxes for all outlet and junction boxes. Provide appropriate mud rings, tile rings or raised covers, depending on the application and allowable installation.
- E. Box Depths:
  - 1. Minimum of three and one-half inch (3½") deep boxes when installed in masonry, including precast construction.
  - 2. Minimum of two and one-eighth inch (2⅛") deep boxes when installed in non-masonry locations.
  - 3. Shallower boxes (1½", 1¼") are allowed only at locations where the wall cavity depth does not permit deeper boxes to be installed concealed within the wall.
  - 4. Coordinate wall thickness and materials of construction with all trades.
- F. Refer to other sections for additional outlet box requirements specific to other systems.
- G. Provide boxes with the appropriate size and quantity of conduit knock outs. Knockouts may be pulled out or reamed out to larger sizes on most steel boxes per manufacturer installation requirements.
- H. Approved steel box manufacturers:
  - 1. Raco

2. Steel City
3. Pre-approved equal
- I. Approved cast metal box manufacturers
  1. Appleton
  2. Crouse-Hinds
  3. Killark
  4. Bell
  5. Red Dot
  6. Pre-approved equal.

## **2.8 INTERIOR PULLBOXES**

- A. Listed metal boxes with removeable screw-on covers.
- B. Boxes with a dimension larger than 12" shall have a cover attached with hinges and stainless-steel screws located within 1/2 inch of each corner opposite the hinges and spaced not more than 12 inches apart.
- C. Size boxes to adhere to the NEC.
- D. Enclosures to be NEMA rated that meets or exceeds the environment in which they are installed.
- E. Approved manufacturers:
  1. Hoffman Enclosures
  2. Electro Mechanical Industries (EMI)
  3. American Midwest Power (AMP)
  4. Pre-approved equal.

## **2.9 EXTERIOR IN-GROUND HAND HOLES**

- A. Precast concrete box and cover or fiber reinforced polyester box and polymer concrete cover.
  1. Covers and boxes design/test load rating (lbs.):
    - a. Grass/landscaping areas: 5,000/7,500lbs – ANSI Tier 5
    - b. Sidewalks and in areas of vehicle traffic: 22,500/33,750 lbs.– ANSI Tier 22
- B. A minimum of 2 stainless steel bolts to secure cover to the box.
- C. Sized as Required Per Code:
  1. Minimum Size 13 inches wide, 24 inches long, and 36 inches deep.
- D. For fiber optic conduit runs, the word "FIBER" shall be formed on the cover.
- E. When mounted in a pavement/paver/concrete surface, provide tinted cover to match the surrounding surface.
- F. Approved Manufacturers:
  1. CDR Systems Corp.
  2. Quazite "Composite"
  3. Newbasis.
  4. Approved equal.

## **2.10 UNDERGROUND WARNING TAPE**

- A. 6 inches wide, 4-mil polyethylene film.
- B. Vivid, opaque, long-lasting red color with bold, black letters.
- C. Lettering
  - 1. Top line – "...CAUTION CAUTION CAUTION..."
  - 2. Bottom line – "...ELECTRIC LINE BURIED BELOW..."
- D. Approved Manufacturers:
  - 1. Seton Name Plate Corp. No. 210 ELE, EMED Co. Stock No. UT27737-6
  - 2. Approved Equal.

## **2.11 DUCT SEALING COMPOUND**

- A. Soft, fibrous, slightly tacky, non-hardening, and easily applied by hand at all working temperatures.
- B. Clean and non-staining.
- C. J.M. Clipper Corp. Duxseal, O-Z/Gedney DUX, or equal.

## **2.12 CONDUIT SEALS**

- A. Conduit seals shall be provided wherever conduits penetrate exterior concrete walls below grade, or cross hazardous location boundaries.
  - 1. For conduits less than 60 inches below grade; OZ/Gedney Type FSK, or equal.
  - 2. For conduits more than 60 inches below grade; OZ/Gedney Type WSK, or equal.

## **2.13 WIREWAYS**

- A. NEMA 12, minimum 14-gauge steel, ANSI 61 gray enamel finish inside and out over phosphatized surfaces.
- B. 14-gauge stainless steel for corrosive environments.
- C. Smooth, rounded edges on all sections and fittings.
- D. Hinge type with screw clamps which are galvanized or stainless steel.
- E. UL listed (UL-870).

# **PART 3 EXECUTION**

## **3.1 CONDUIT SIZES**

- A. Verify conduit sizes indicated on the Contract Documents prior to installation. Provide proper size conduit based on the NEC maximum fill requirements, including any derating factors. Where conduit sizes are indicated on the plans, it is a minimum size allowed. It is the Contractor's responsibility to provide the proper conduit size, including any grounding conductors and flexible connections to equipment.
- B. Where conduit sizes are not shown, provide conduit with the minimum sizes:
  - 1. 1.25" conduit for underground
  - 2. 3/4" conduit size for branch circuit homeruns
  - 3. 1/2" conduit size everywhere else.
- C. Spare conduits shall be sized as noted in the Contract Documents. Where spare conduit sizes are not identified provide a minimum size of 1.25".



### 3.2 INSTALLATION

- A. Installation of conduit shall meet the requirements of the NEC and the National Electrical Contractors Association (NECA) conduit installation standards. Where the documents may conflict, the requirements of the NEC take precedence.
- B. Install all line voltage (120, 208, 277 and 480 volts) conductors in a continuous raceway system.
- C. Circuits of different voltage systems shall be installed in separate raceways, unless specifically noted otherwise in the Contract Documents.
- D. Provide pull and junction boxes as required by the NEC and as site pulling requirements dictate.
- E. Conduits entering boxes and equipment from a flat surface shall be provided with an offset 3" from the box to allow the conduit to be fastened securely to the flat surface it is run on.
- F. Do not route any conduits across rooftops, unless specifically noted otherwise in the Contract Documents to do so. Where conduits are allowed to be routed across rooftops, install conductors in Rigid Metal Conduit and provide proper derating of the conductor ampacities to account for the high ambient temperature as required in NEC. Mount conduit on roof blocks specifically designed for the intended environment.
- G. Support all trapezes and all above-ground conduits from the building structure.
- H. Route all horizontal raceway above water piping, where possible.
- I. Do not support conduit with wire, nylon ties, nor perforated pipe straps. Remove wire used for temporary support.
- J. Do not attach conduit to ceiling support wires.
- K. Run all exposed conduit in a neat, workmanlike manner parallel to the building lines, tight to the wall and ceiling surfaces, and firmly support with conduit clamps or hangers.
- L. Do not run conduits in the following:
  - 1. Columns except feed column mounted devices.
  - 2. Through structural slabs, beams, or columns, unless approved by the Structural Engineer.
  - 3. Concrete topping.
  - 4. Through the same penetrations through floors and walls as mechanical piping unless noted otherwise or if approved by the Engineer.
- M. Place conduits at least 8" away from all hot piping and surfaces including domestic hot water lines.
  - 1. Boxes shall be a minimum of 3" from any process pipes, unless noted otherwise.
- N. Do not mount conduit on mechanical equipment except where necessary to connect electrical devices mounted on the equipment. Provide flexible conduit in all runs "bridging" vibration mountings.
- O. Do not run conduit on or directly in front of access doors, removable panels, equipment removal spaces, control devices, or other spaces necessary for normal maintenance and repair of the equipment.
- P. Install all exterior underground branch circuit conduits continuously from the source to the load. Do not install in-ground boxes as pull boxes. Oversize the conduits if required.

- Q. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system. Install exterior underground conduits to drain away from the building.
- R. Provide suitable fittings to accommodate expansion, contraction, and deflection where conduits cross seismic, control and expansion joints. Avoid crossing expansion joints where possible.
- S. Cap or plug conduit ends during construction. Cap or plug ends of conduit that are to remain empty and make watertight. Clean and swab conduits prior to pulling in conductors.
- T. Provide nylon pull string in all empty conduit with a stamped plastic label indicating future use.
- U. Where conduits are stubbed out above walls for use of future or low voltage cabling, provide a bushing on the end of the conduit to protect cabling.
- V. Expansion fittings shall be installed at building expansion joints and where the length of straight run requires it.
- W. Underground Conduit:
  - 1. Underground conduit runs shall have a minimum cover of 2 feet.
  - 2. Conduit shall be sloped to drain to handholes or outdoor pull boxes.
  - 3. Rigid metal conduit installed underground or passes through concrete shall have a corrosion resistant coating or covering at the points it contacts earth and/or concrete.
  - 4. Contractor shall do all trenching for underground conduit with a minimum size trench. 3 inches of sand shall be placed below and above buried conduit in trench. All fill material shall be placed in 12-inch lifts and compacted to 90-Percent Standard Proctor Density. Underground warning tape shall be laid in the trench approximately 9 inches below the surface.
  - 5. The roadway, sidewalk, or grade beneath which conduit is routed shall be restored to its original or better condition.
    - a. Provide grading, soil, and seeding or sod to restore turf to original or better conditions.
    - b. Coordinate type of soil, seeding and/or sod with Owner to match existing.
  - 6. Excavating, backfilling, and grading shall comply with Division 31.
- X. Conduit and Penetration Sealing:
  - 1. Seal all conduits where they pass through exterior walls and where they enter exterior fixtures.
  - 2. Seal all conduits where temperature differential between adjacent spaces is greater than 30 degrees Fahrenheit.
  - 3. Seal all conduit penetrations of smoke or fire rated walls or floors with intumescent type fire barriers.

### **3.3 OUTLET AND JUNCTION BOX INSTALLATION**

- A. Maintain accessibility to all outlet and junction boxes as required by the NEC.
- B. Provide recessed outlet boxes in all new construction, except mechanical and electrical rooms. Outlet boxes in mechanical and electrical rooms may be installed exposed.
- C. Provide concealed junction boxes in all new construction, except mechanical and electrical rooms. Junction boxes in mechanical rooms may be installed exposed.

- D. The mounting heights indicated on the drawings are from the center of the outlet box to the finished floor directly below the outlet. Exterior heights are from inside adjacent door, or if no door, from the first floor above grade, unless noted otherwise.
- E. Coordinate the location of all outlets with all drawings before installation. Verify mounting heights and locations of all outlet boxes, including the following:
  - 1. Coordinate device locations with the Owner's final furniture plan(s) before rough-ins. It is advised for the Contractor get a final signed document stating this coordination was performed.
  - 2. Outlets are located on walls with baseboard radiation. Mount to the side of radiation covers.
  - 3. Switch boxes at doors. Verify door swings. Install switchboxes on the latch side of the door if possible.
  - 4. Outlet boxes at casework. Mount outlet boxes above counters and above backsplashes.
  - 5. Outlet boxes at undercounter refrigerators. Mount outlet boxes in the space reserved for the refrigerator.
  - 6. Outlet boxes for microwave units. Mount outlet boxes in the space reserved for the microwave.
  - 7. Outlet boxes adjacent to marker boards or other wall-hung items. Verify top edge and bottom edge of wall-hung items and mount outlets on clear wall space.
- F. Do not mount boxes back-to-back or nipped together.
  - 1. Boxes mounted on opposite sides of a wall shall be mounted on separate studs.
- G. Do not use through-wall boxes unless specifically called out on the plans.
- H. Field-gangable boxes are not allowed. Provide manufactured, multi-gang boxes.
- I. Provide separate switch boxes for lighting dimmer switches to maintain full dimmer rating, if derated wattage/ampere is below the designated circuit ampacity.
- J. Close openings in all outlet boxes during plaster and concrete work with plain paper or slip-on plastic or metal plates.
- K. Provide knockout closures to cap used knockout holes.
- L. Provide FS and FD boxes in wet, damp, and exterior locations.
- M. Maintain vapor barriers around boxes and/or provide suitable boxes listed for use in vapor barriers.
- N. Provide air-tight seals for all boxes in air plenums that can allow air to pass through connecting conduit. Repair all damage to insulation and vapor barriers.
- O. Where boxes and concrete are installed in masonry, provide listed equipment or the means acceptable to the AHJ necessary to provide concrete-tight connections and boxes required by the NEC.
- P. Where receptacle and voice/data or TV boxes are to be provided accessible on the same side of a wall or surface, they shall be provided on the same stud or within 4" of each other.

### **3.4 INTERIOR PULLBOX INSTALLATION**

- A. Provide concealed pull boxes in all new construction, except mechanical and electrical rooms. Pull boxes in mechanical and electrical rooms may be installed exposed.
- B. Terminate all conduits at cabinets and boxes with locknuts and bushings. Provide insulating bushings on all conduit 1" and larger.
- C. Provide pull boxes in accessible locations. Provide accessibility to the pull box cover. Coordinate location of pull/junction boxes with other divisions (trades) prior to installation. Do not locate pull boxes in exposed finished spaces without the specific approval of the Owner Representative.
- D. Provide ½" clear space behind boxes when mounting in wet or damp locations.
- E. Boxes above ACT ceilings shall not be more than 4' from the ceiling. Provide additional supporting hardware and stands to mount equipment if structural ceiling or supports is over 4' from the ACT ceiling.

### **3.5 EXTERIOR IN-GROUND HANDHOLES**

- A. Reference NEC for handhole requirements and installation.
- B. All handholes shall have a drain opening in bottom. Excavating handholes shall be dug at least 24 inches deeper than the depth of the bottom of the handhole and the area below the handhole shall be filled with pea gravel.
- C. Handhole covers shall be bolted in place when Work is complete.

### **3.6 CONDUIT BODY INSTALLATION**

- A. Provide conduit bodies in accessible locations. Provide accessibility to the cover. Coordinate location of conduit bodies with other divisions (trades) prior to installation. Do not locate conduit bodies in exposed finished spaces without the specific approval of the Owner Representative.

### **3.7 OPENINGS**

- A. Contractor shall review the size and location of all openings to be sure they meet the requirements of the equipment that is furnished and/or installed as a part of this Contract. The contractor shall be responsible for providing all required openings necessary for a complete installation. All required openings are not shown on the Drawings.
- B. All openings shall be filled with an approved sealant, caulking, or grout after the conduit or cable installation is complete.
- C. Openings through grating shall have the bars of the grating banded.
- D. Provide watertight seal around conduit in openings which are approved by the Owner Representative, for all roof, below grade and exterior wall penetrations.
- E. Provide airtight seals for all raceway penetrating air plenums. Repair all damage to insulation and vapor barriers. Seal vapor barriers tight to conduit penetrating vapor barriers.

### **3.8 IDENTIFICATION**

- A. Provide panel and circuit number(s) identification on the cover of all junction boxes and pull boxes located in accessible areas (i.e. above accessible ceilings).
- B. Provide clear, hand-printed lettering using a black permanent marker.

- C. Perform stenciling after the building has been painted so that overspray from building painting does not cover up stenciling performed under this specification section. Re-label any boxes that have been painted over by the painter.

### **3.9 RACEWAY AND BOXES APPLICATIONS**

- A. Apply products as specified below, unless otherwise indicated.
- B. Conceal all conduit work, except conduit and boxes installed in the following spaces may be run exposed:
  - 1. Mechanical
  - 2. Electrical
  - 3. Other utilitarian spaces with unfinished concrete walls and exposed ceilings.
- C. Outdoors (non-corrosive):
  - 1. Exposed Conduit: RMC, IMC
  - 2. Underground Conduit: RNMCM SCH 40 or 80
  - 3. Connection to vibrating equipment; including transformers and hydraulic, pneumatic, electric solenoid, or motor-driven equipment, chillers: LMFC
  - 4. Boxes and enclosures, aboveground: NEMA 3R
- D. Under interior slabs-on-grade:
  - 1. RMC, RNMCM SCH 40, IMC
- E. Interior (non-corrosive):
  - 1. Concealed in ceilings, interior walls and partitions: EMT
  - 2. Connection to vibrating equipment; including transformers and hydraulic, pneumatic, electric solenoid, or motor-driven equipment, chillers: FMC
    - a. Use LMFC in damp or wet locations.
  - 3. Boxes and enclosures: NEMA 250, Type 1
    - a. NEMA 250, Type 4, stainless steel in damp or wet locations.
  - 4. Exposed: EMT.
- F. Raceway Fittings: Compatible with raceways and suitable for use and location.
  - 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.

**END OF SECTION**

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## **SECTION 26 51 00**

### **LIGHTING**

#### **PART 1 GENERAL**

##### **1.1 SECTION SUMMARY**

- A. Drivers.
- B. Contactors and Timeclocks.
- C. Poles.
- D. Installation.

##### **1.2 SUBMITTALS**

- A. In addition to the requirements of this section, submit shop drawings and descriptive data in accordance with Division 1 and Division 26.
- B. Submit shop drawings in booklet form with separate sheet for each luminaire assembled in alphabetical order by 'type'. Submit manufacturer's data including dimensioned drawings and photometric data prepared by an independent nationally recognized testing lab.
- C. Submit shop drawings for each ballast type and lamp as specified and/or indicated on the drawings.
- D. Provide photometric data for each luminaire and a photometric analysis of each space where Contractor proposes using luminaires which is not listed in the Contract Documents, or which does not have prior approval. Contractor shall assume full responsibility for scheduling and timing for the analysis. The following information shall be displayed in the analysis and Contractor shall modify the analysis and change data used upon request from Engineer/Owner at no additional cost or project schedule change.
  - 1. Illumination levels in foot-candles.
  - 2. Analysis/Calculation grid shall be suitable for the project area to give a realistic feel for the space and shall be readable.
  - 3. Height of analysis/calculation surface(s) in the model.
  - 4. Light Loss factor for each luminaire.
  - 5. Initial delivered lumens for each luminaire and lamp.
  - 6. Statistics for each space/area: Average, Maximum, Minimum, Max/Min Ratio, Avg/Min Ratio.
  - 7. Where the measured light levels of the installed luminaires does not meet or exceed the Contractor's photometric analysis, Contractor shall replace luminaires with the specified luminaires or other approved luminaire which meets the proposed light levels.
- E. Samples:
  - 1. Contractor shall upon written request by the consultant, provide samples of any custom-made components suitable for evaluation.
  - 2. Contractor shall upon written request by the consultant provide samples of standard system components or software suitable for evaluation.

3. Samples submitted in accordance with this section will be returned to the contractor following evaluation.

### **1.3 DESIGN CRITERIA**

- A. Where switching circuit designations are not identified in the Contract Documents, the area lighting system shall be controlled by the device(s) shown in the space.
- B. Multiple lighting control zones in a shared space are identified in the Contract Documents with the use of switch designations.
- C. The lighting control system shall be listed, approved, and comply as required with all governing energy codes and ordinances.
- D. Refer to Section 26 51 13 for lighting control systems.

## **PART 2 PRODUCTS**

### **2.1 GENERAL REQUIREMENTS FOR LUMINAIRES**

- A. Provide luminaires with lamps, for each outlet specified in the Contract Documents.
- B. Reference luminaire schedule in the Contract Documents.
- C. Provide U.L. labeled luminaires.
- D. The luminaire types required are as noted by a capital letter(s) and number(s) on the Drawings. Contractor is solely responsible for the exact quantities. Luminaire shapes shown on the Contract Documents do not necessarily equate to an exact length or quantity of luminaire; rather, the luminaire designation shown on the plans refer to the type of luminaire. It is the Contractor's responsibility to provide the proper length and switching configuration in each space.
- E. Provide disconnects at each luminaire as required by the NEC.
- F. Unless indicated otherwise, provide color stabilized clear virgin acrylic diffusers for interior luminaires. Provide a minimum thickness of 0.156" for all troffer lenses.
- G. Unless indicated otherwise, refer to architectural documents for mounting heights of wall mounted, pendant mounted or hung luminaires.

### **2.2 DRIVERS**

- A. LED Drivers:
  1. UL Class 2 power unit as per UL1310. It is also listed in the UL Sign Accessory Manual (UL SAM).
  2. Class A sound rating.
  3. Minimum operating ambient temperature of -40 degrees C.
  4. Life expectancy of 50,000 hours or greater at an average ambient temperature of  $\leq 40$  degrees C with use of the luminaire it is supplied with.
  5. Self-rise of 25 degrees C at maximum load in open air without heat sink.
  6. Certified by UL for use in a dry or damp location (Outdoor Type I).
  7. Tolerates sustained open circuit and short circuit output conditions without damage.
  8. Allowable case temperature up to 85 degrees C.
  9. Reduce output power to LEDs if maximum allowable case temperature is exceeded.



10. Driver complies with governing FCC rules and regulations.
11. Tolerate sustained open circuit and short circuit output conditions without damage and need of external fusing or trip devices.
12. Dimmable, controlled by 0-10V low voltage controller or other means compatible with lighting system controls.
13. Manufacturer shall have a 5 year history of producing LED lighting drivers for the North American market.

## **2.3 CONTACTORS AND TIMECLOCKS**

- A. Relays:
  1. 120 Vac, 60 Hz. universal plug-in type
  2. Contacts rated 10 amps at 240 Vac.
  3. Dust cover and base with screw terminals.
  4. Approved Manufacturer:
    - a. Potter & Brumfield
    - b. Square D
    - c. Allen-Bradley
    - d. Or equal.
- B. Lighting Contactors:
  1. 600 volt electrically held.
  2. NEMA 1 enclosure, or open type if mounted in enclosure with other components.
  3. Approved Manufacturer:
    - a. Cutler-Hammer.
    - b. General Electric.
    - c. Square D.
    - d. Or equal.

## **2.4 POLES**

- A. For all Luminaire Types:
  1. 20 foot tall, square, straight, steel, poles
  2. Paint which matches the luminaire.
  3. Base plate cover over bolts and base plate.
  4. Handhole with gasketed cover.
- B. All pole installations shall be capable of withstanding the forces produced by winds with a 1.3-gust factor and the total number of luminaires and additional equipment required per pole.
- C. Low voltage wiring will not be allowed to share the same raceway space as power wiring. Poles shall be provided with provisions to separate the Class 1, 2, and 3 low voltage wiring from the power wiring inside the pole. Contractor shall coordinate cabling requirements with all trades and suppliers.

## **2.5 EXTERIOR MOTION RESPONSE**

- A. Where indicated in the Contract Documents exterior luminaires are to be provided with an integral motion sensor. Motion sensor shall detect motion 180° on the front side of the fixture.

- B. Sensor shall detect motion at a total distance of twice the height of which the fixture is mounted. Example: A sensor provided on a fixture mounted at 20' shall cover an area 40' wide.
- C. Motion detector shall be wired directly to the luminaire driver to provide the specified control.
- D. Sensor shall be low profile.

### **PART 3 EXECUTION**

#### **3.1 INSTALLATION**

- A. Provide all hangers, rods, mounting brackets, supports, frames, etc. for proper and safe luminaire installation. Install all luminaires in accordance with manufacturers' recommendations and instructions. Refer to Section 26 05 29: "Supporting Devices" for approved supporting methods. Type of ceilings shall be verified so proper mounting hardware is furnished with each luminaire.
- B. In general, luminaires shall be located where shown on the Contract Documents; however, Contractor shall check equipment locations and install luminaires so that piping, duct work, and other devices or equipment shall not interfere with the luminaire components or its performance.
- C. Provide luminaires complete with all auxiliaries required for proper, safe and distortion free installation in the various ceiling constructions in which they appear. Coordinate ceiling types with the Architectural drawings and provide compatible luminaires.
- D. Provide felt or fiberglass gaskets on all incandescent luminaires where necessary to prevent light leakage at the ceiling line.
- E. Location of insulation above ceilings shall be verified where recessed luminaires are located. If insulation is present, Contractor shall provide IC rated luminaire or install barrier to separate luminaires from insulation per manufacturer's recommendations.
- F. Pole erection and mounting shall be done according to pole manufacturer's recommendations.
- G. A concrete base shall be provided for each outdoor luminaire, unless noted otherwise. Base types shall be provided as detailed on the Drawings.

#### **3.2 WIRING**

- A. Provide grounding type connectors for all conduit and cable.
- B. Provide a neutral (grounded) conductor with each switching circuit 120V (L-G) or greater.
- C. Provide an insulated grounding conductor with each lighting circuit.

#### **3.3 QUALITY CONTROL**

- A. At the time of substantial completion, all luminaires must be installed and lamped with new lamps. Install all luminaires complete with lenses, diffusers, reflectors, louvers, and other required accessories. Furnish a minimum of one case of replacement lamps for each type and size lamp used. Deliver replacement stock to the Owner's storage space as directed by the Owner.
- B. Lenses, refractors, and glassware shall be clean and free from cracks or chips. All reflectors, shades, luminaire bodies, etc. shall be free from dents and scratches. Replace any damaged reflectors, diffusers, louvers, or other components at no expense to the Owner.

- C. Clean all luminaires free of dust, fingerprints, paint, etc.. All exposed tags and labels other than UL and emergency ballast identifiers shall be removed.
- D. Perform aiming and adjustment of all lighting luminaires in accordance with instructions issued by the Engineer. Adjust all directional type luminaires (interior and exterior) after dark under the direction of the Architect, Engineer, and/or Owner.
- E. Replace all defective ballasts within the guarantee period at no cost to the Owner.

### **3.4 LIGHTING REBATE PROGRAM**

- A. Apply the Utility energy lighting rebate to this project. Secure on behalf of the Owner the maximum rebate. Include all negotiations and substantiation required.

### **3.5 IDENTIFICATION**

- A. Lighting control components shall be identified by laminated plastic nameplates with 1/4-inch white lettering on a black background. Identify each lighting contactor based on the loads served. In addition, identify the lighting control panels as such.
- B. Each exterior LED luminaire shall be provided with an adhesive label on the outside of the housing but concealed from normal view, such as on the top side of a pole mounted fixture, ceiling, or on the driver housing.
  - 1. Pole Mounted Fixtures: Provide the label on the inside of the pole handhole cover.
  - 2. Label shall identify the following items:
    - a. Date of installation
    - b. Rated Lumen output
    - c. Rated Color Temperature
    - d. Rated input wattage
    - e. Distribution package type (example; Distribution Type: IV)

**END OF SECTION**

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**SECTION 26 51 43**  
**LIGHTING OPERATIONS**

**PART 1 GENERAL**

**1.1 SECTION SUMMARY**

- A. System Description
- B. System Operation
- C. Low Voltage Lighting Control Panels
- D. Control Devices
- E. Installation

**1.2 REFERENCES**

- A. Section 26 05 00: Common Work Results for Electrical
- B. Section 26 05 33: Raceways, Fitting and Boxes
- C. Section 26 51 00: Lighting

**1.3 SUBMITTALS**

- A. In addition to the requirements of this section, submit shop drawings and descriptive data in accordance with Division 1 and Section 26 05 00.
- B. Provide a complete shop drawing package of the system.
- C. Provide clearly legible shop drawings.
- D. Indicate short circuit current rating of all equipment.
- E. Submit original prints of the manufacturer product sheets with complete technical data for each item being provided. Circle, arrow or provide other permanent marking on each data sheet to clearly indicate the specific product included in the submittal. Remove or crosshatch out any product on the data sheets not applicable to the project or not being submitted for review.
- F. Submit wiring diagrams for all components including but not limited to, relay panels, relays, controls, etc.
- G. Submit physical drawings of components.
- H. Shop drawings not containing all the information listed above will be rejected without review.
  - 1. Submit original prints of the manufacturer product sheets with complete technical data for each item being provided. Circle, arrow or provide other permanent marking on each data sheet to clearly indicate the specific product included in the submittal. Remove or crosshatch out any product on the data sheets not applicable to the project or not being submitted for review.
  - 2. Provide a complete proposed system description.
  - 3. Provide single line riser diagram and floor plan depicting location of every device in the proposed system.
  - 4. Provide diagram(s) depicting equipment mounting racks and the location of all equipment and devices to be mounted therein.

5. Provide diagram(s) depicting wall mounted equipment including the associated cable routing and power requirements.
  6. Contractor shall provide equipment panel elevations for each lighting panel or lighting panel group. Elevations to indicate component layouts, cable routing and terminal blocks.
  7. Contractor shall provide complete engineering drawings of all custom made components indicating all materials, gauges, dimensions, finishes and wiring diagrams.
- I. Review of shop drawings does not vacate responsibility of contractor to provide a functioning system meeting the Owner's requirements.
  - J. Operating Manuals to be furnished as specified in Division 1, Division 26.

#### **1.4 SYSTEM OPERATION**

- A. Contractor shall provide lighting controls and associated equipment, and work required to perform the lighting operations specified here-in.
- B. Exterior BAS controls for Pole Mounted Luminaires:
  1. Luminaires are to be controlled ON/OFF by existing Owner provided BAS system. Connect circuits serving outdoor luminaires to existing outdoor lighting contactors which will be controlled by the Owner's BAS system.
  2. Owner will contract the BAS services provider for programming services as needed outside of this contract.
- C. When luminaires are to be ON:
  1. Luminaires will utilize an integral sensor for the detection of motion.
  2. Luminaires shall turn on to 50% on.
  3. Each luminaire shall be provided with a local occupancy/motion sensor that shall increase that light's output to 100% when occupant/motion is detected. When no occupancy/motion is detected after a preset time delay, initially set to 15minutes, the luminaire shall be dimmed back to 50%.
  4. Luminaires shall be turned off when daylight level increase to a preset setpoint.
  5. Contractor shall verify all settings with Owner during startup and program/adjust settings accordingly.

#### **PART 2 PRODUCTS**

Not Used

#### **PART 3 EXECUTION**

##### **3.1 INSTALLATION**

- A. Install all Equipment in accordance with manufacturer's recommendations. Provide complete system as indicated on the drawings. Make all necessary wiring connections to internal/external devices.
- B. Locate relay panels adjacent to panelboard as indicated on the drawings.
- C. Install relays, low voltage switches and relay cabinets as indicated on the drawings. Install all relays, transformers, and rectifiers in relay cabinets.
- D. Label all low voltage switch wires and corresponding relays to identify which relay(s) and switch(es) control associated rooms.
- E. Where occupancy sensors are to be used, Contractor shall provide a guarantee of sensor coverage and operation for the Contractor's proposed sensors and layout. If Owner has a

nuisance tripping problem for any lighting zone controlled by an Occupancy sensor it is the Contractor's responsibility to replace the sensor. If Owner and Engineer determine the model or type of sensor provided is inadequate for the space usage, Contractor shall replace the sensor with a different model and/or manufacturer at request of Owner at no additional cost.

- F. Contractor shall hold coordination meetings with Electrical Contractor, Mechanical Systems Contractor, and Lighting Control Systems equipment provider. Meeting length and frequency shall be as required, with a minimum of one meeting between trades to ensure system equipment, locations, mounting, and cabling requirements are fully coordinated before installation begins. Contractor shall be responsible for any additional costs required to make corrections or additions in the field for a fully installed and operating system due to conflict of Contractor assumptions and/or conflict of materials provided. Contractor shall provide meeting minutes and a signed attendance sheet of the meeting upon request of Owner or an Owner representative.

### **3.2 IDENTIFICATION**

- A. Identify each wire and associated termination point on the terminal blocks. Provide a permanent labeling method. Provide identification based on the final identification/number system coordinated with the Owner. Provide as-built relay schedules in the cabinet and in the project O & M Manuals.

### **3.3 START-UP RESPONSIBILITY**

- A. The Contractor shall initiate system operation. Trained start-up personnel shall be provided on each consecutive working day until the system is fully functional and ready to start the testing phase.
- B. Properly ground each piece of electronic equipment prior to applying power. Any equipment damaged due to improper ground shall be replaced by the Contractor at their expense.
- C. Properly ground all shielded wire shields to the appropriate earth ground.
- D. All systems, equipment, and devices shall be in full and proper adjustment and operation and properly labeled and identified.
- E. All materials shall be neat, clean, and unmarred and parts securely attached.
- F. All surfaces shall be restored to their original appearance and condition after installation.
- G. Contractor shall notify the Owner's Representative when the start-up phase is complete, and the system is functioning as required per specifications. The Owner's Representative will then notify the Contractor when the testing phase is ready to begin.

### **3.4 TESTING**

- A. A trained technician shall be present when the system is put into service and shall certify to the Engineer/Owner that all equipment has been installed correctly and is operating properly.
- B. Technician shall make all modifications necessary to obtain proper operation of the system.
  - 1. Verify that all wiring connections are complete and correct.
  - 2. After installation and before termination, all wiring and cabling shall be checked and tested to ensure there are no grounds, opens, or shorts on any conductors or shields.
  - 3. Test for and eliminate ground loops that may result from use of different power sources for various components.
  - 4. Complete system software programming.

5. Test relays and switches after installation to confirm proper operation and confirm correct loads are recorded on directory card in each panel.
- C. All functions and features to be tested as a complete system and corrections made at no cost to the Owner.
- D. All devices shall be calibrated to obtain the specified function and to reach the specified foot-candle level. Where daylight harvesting is used, Contractor shall calibrate the associated photocell signal in relation to the measured foot-candle level delivered to the surface being lit.
- E. Contractor shall notify the Owner's Representative when testing is complete, and the system is functioning as required per the Contract Documents. The contractor shall then coordinate with the Owner's Representative a time for the Owner's Review phase.
- F. Contractor shall meet with the Owner's Representatives to review the programmed control schemes for the required operations. At this time, the Owner may desire to alter the system programming after reviewing the system. Contractor shall revise the lighting system controls as directed by the Owner's Representatives. Base bid shall include all changes to the proposed system shown on the Drawings; Owner shall not be charged additional costs for modifying the system controls or Contractor's attendance at meetings.
- G. When the lighting control system revisions have been completed, Contractor shall test the system as described above. After the testing, Contractor shall notify the Owner's Representative when testing is complete, and the system is functioning as required per Owner modifications and the requirements of the Contract Documents. The contractor shall then coordinate with the Owner's Representative a time for Engineer to walk through the system and develop a punch list.
- H. Upon completion of the punch list and verification that Contractor has completed all punch items, the Owner's Representative will notify the Contractor the testing phase of the project has been completed, and the Contractor is ready to start the record drawings phase of the project.

### **3.5 RECORD DRAWINGS**

- A. The Contractor shall submit the complete Record Drawings. These Drawings shall include:
  1. Installer prepared wiring diagrams, including terminal strip layout and identification, and wire termination and tagging for all conductors.
  2. Locations for all major equipment components installed under this Specification.
  3. Complete Riser diagrams.
  4. Cable logs.
  5. Contractor shall deliver the record plans to the Engineer. Upon receipt of the record plans by the Engineer and verification of the compliance with the above requirements for the record plans the Engineer will notify the contractor that the record plans phase of the project has been completed and the contractor is ready to start the system acceptance requirements phase of the project.

### **3.6 SYSTEM ACCEPTANCE REQUIREMENTS**

- A. Before final acceptance of work, the Contractor shall perform and/or deliver each of the following in the order.
  1. Contractor shall return the project site(s) after 30 days but no more than 60 days after the substantial completion date and when the lighting control system is operational and after training has been completed. At this time Contractor shall meet with the Owner's



representatives to review the programmed control schemes for the lighting system operations.

2. Owner may request revisions or additional training on the system. Contractor shall revise the programming and adjust device level setpoints as requested by the Owner. Base bid shall include all modifications to the; Owner shall not be charged additional costs for modifying the system controls or attendance at meetings.
  3. Include a minimum of 8 hours for modifying system controls.
- B. The Contractor shall deliver 2 complete "Systems Operation and Maintenance Manuals".

**END OF SECTION**

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## **SECTION 31 05 16**

### **AGGREGATES FOR EARTHWORK**

#### **PART 1 GENERAL**

##### **1.1 RELATED WORK**

- A. Related work specified in other sections:
  - 1. Section 31 10 10: Site Clearing
  - 2. Section 31 22 00: Grading
  - 3. Section 31 23 33: Trench Excavation and Backfilling for Utilities
  - 4. Section 31 25 00: Erosion and Sediment Controls
  - 5. Section 32 12 16: Asphalt Paving
  - 6. Section 32 13 13: Concrete Paving
  - 7. Section 33 42 00: Stormwater Conveyance

##### **1.2 SUBMITTALS**

- A. Submit laboratory test reports indicating the proposed aggregate grading meets the requirements specified herein.
- B. Submit laboratory test results indicating the proposed aggregate base material meets the Los Angeles Abrasion requirements, and minimum percent crushed as specified herein.
- C. The information must be current and represent the material to be supplied to the project site. If test information is not available from the supplier, the Contractor shall make arrangements and pay for required tests.

#### **PART 2 PRODUCTS**

##### **2.1 SOIL MATERIALS**

- A. Soil materials shall meet the requirements of MnDOT Standard Specifications for Construction, 2020 Edition, Section 3136, Section 3138, Section 3149, and the most current MnDOT special provisions.
- B. Provide suitable on-site or off-site borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- C. Refer to Geotechnical Report for fill materials and suitable locations.
- D. Topsoil shall be a fertile, friable, natural loam containing a liberal amount of humus and capable of sustaining vigorous plant growth.
- E. The pH value of the topsoil shall be between 5.5 and 7.5.
- F. Topsoil shall be obtained from naturally well-drained areas and shall be clean and reasonably free of subsoil, stones, clods of hard earth, plants or their roots and other extraneous matter.
- G. Topsoil obtained from stripping the site may be used.
- H. The topsoil, whether it is new or salvaged, shall be loosened such that it is dry and friable and ready to be fine graded.

#### **PART 3 EXECUTION**

NONE THIS SECTION

**END OF SECTION**

## **SECTION 31 10 00**

### **SITE CLEARING**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Removing designated paving, curbs, sidewalks, and driveways.
  - 2. Topsoil excavation, and removal of unsuitable soils.
- B. Related Sections:
  - 1. Section 31 22 00: Grading
  - 2. Section 31 25 00: Erosion and Sediment Controls

##### **1.2 SUBMITTALS**

- A. Submit Manufacturer's Certificate certifying products meet or exceed specified requirements.

#### **PART 2 PRODUCTS**

Not Used.

#### **PART 3 EXECUTION**

##### **3.1 GENERAL**

- A. Perform Work in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2101, 2104, 2106, and the most recent special provisions.

##### **3.2 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Identify area for placing removed materials.

##### **3.3 PREPARATION**

- A. Notify Utility Companies prior to performing any Work. Call Gopher State One Call: 1-800-252-1166.
  - 1. Request underground utilities to be located and marked within and surrounding construction areas.
  - 2. Coordinate any required relocation of underground utilities with utility owner.

##### **3.4 PROTECTION**

- A. Locate, identify, and protect utilities indicated to remain, from damage.
- B. Protect trees, plant growth, and features designated to remain, as final landscaping as shown in the Plans.
- C. Protect bench marks, survey control points, and existing structures from damage or displacement.

##### **3.5 MISCELLANEOUS REMOVALS**

- A. Abandoned structures and other obstructions shall be removed and disposed of in accordance with state and local requirements.

- B. Prior to beginning removals, the Engineer or Owner will mark the limits of the features to be removed. The limits shall be reviewed on-site by the Contractor and the Owner's on-site representative.
- C. Remove debris, rock, and extracted plant life from site.
- D. Partially remove paving, curbs, sidewalks, and driveways as indicated on Drawings. Neatly saw cut edges at right angle to surface.
- E. Items indicated to be salvaged shall be done so with minimum damage and stored until reinstallation or moved to a storage location as directed by the Owner.
- F. Any item removed that is not to be salvaged or reused on the project shall be disposed of offsite by the Contractor in accordance with state and local requirements.
- G. Continuously clean-up and remove waste materials from site. Do not allow materials to accumulate on site.
- H. Conduct removal of waste materials as to minimize interference with vehicular and pedestrian traffic.
- I. Do not burn or bury materials on site. Leave site in clean condition.

### **3.6 TOPSOIL EXCAVATION**

- A. Excavate topsoil from areas to be further excavated, re-landscaped, or re-graded, without mixing with foreign materials for use in finish grading.
- B. Do not excavate wet topsoil.
- C. Stockpile topsoil to be reused on-site in area determined by the Contractor and approved by the Owner.
- D. Protect stockpiled topsoil from erosion in accordance with NPDES permit requirements.
- E. Excess topsoil not intended for reuse shall be disposed of off-site if a site for excess topsoil is not identified in the plans.

**END OF SECTION**

## **SECTION 31 22 00**

### **GRADING**

#### **PART 1 GENERAL**

##### **1.1 RELATED WORK**

- A. Related work specified in other sections:
  - 1. Section 31 05 16: Aggregates for Earthwork
  - 2. Section 31 10 00: Site Clearing
  - 3. Section 31 23 33: Trench Excavation and Backfilling for Utilities
  - 4. Section 31 25 00: Erosion and Sediment Controls
  - 5. Section 32 12 16: Asphalt Paving
  - 6. Section 32 13 13: Concrete Paving
  - 7. Section 33 42 00: Stormwater Conveyance

##### **1.2 SUMMARY**

- A. Preparing subgrades for buildings, slabs, walks, concrete/bituminous pavements and other exterior improvements.
- B. The extent of grading is shown on the Drawings.

##### **1.3 REFERENCES**

- A. Geotechnical Evaluation Report performed by Braun Intertec as contained in the Project Manual.

##### **1.4 JOB CONDITIONS**

- A. All information concerning property boundaries, ground elevations, present obstructions on or near the site, location of conduits, pipes, wires, etc., has been obtained from a source the Owner believes reliable. Present ground and subsurface conditions are documented by test boring logs included herein, however accuracy of this data is not guaranteed, and is furnished solely for the convenience of the Bidder. Use of this data is at Bidder's risk and no additional compensation will be granted because of the Bidder's lack of knowledge of the existing site.
- B. Additional test borings and other exploratory operations may be conducted by a Bidder (at no cost to the Owner), provided the methods and operations are acceptable to the Owner.
- C. Grades shown on the Plans are finished grades. Grading Contractor shall grade to the subgrade except landscaped areas that will be graded to finish grade with approved topsoil.
- D. The Contractor shall be solely responsible for determining quantities of cut, fill and waste materials and for the amount of grading to be done to complete the Work. Import/Export materials as required at no additional cost to the Owner.
- E. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult appropriate utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair any damaged utility(s) to satisfaction of utility owner.
- F. Visit the site prior to bidding; be familiar with actual conditions in the field. Extra compensation will not be allowed for conditions which could have been determined or anticipated by

examination of the site, the Contract Drawings and the information available pertaining to existing soils, utilities and other site characteristics.

- G. Maintain carefully, as established, temporary bench marks, monuments and other reference points and, if disturbed or destroyed by the Contractor, pay for replacement by a registered Engineer or Land Surveyor.
- H. Locate existing underground utilities and tile lines in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

## **1.5 QUALITY ASSURANCE**

- A. A soil testing and inspection service (Geotechnical Engineer) will perform quality control testing of the earthwork operations.
- B. Contractor shall coordinate with the soil testing and inspection service to provide samples, a grading schedule, and equipment and personnel to perform the necessary tests.

## **PART 2 PRODUCTS**

### **2.1 SOIL SEPARATION FABRIC**

- A. Highly permeable non-woven fabric with a random arrangement of fibers heat bonded at crossover points, or spun bonded and mechanically entangled by needle punching or other acceptable methods, with the following properties.

Apparent Opening Size, ASTM D4751	USS #100 maximum
Minimum Weight	3.7 oz/sq. yd.
Grab Tensile Strength, ASTM D4632	180lb. minimum each direction
Bursting Strength, ASTM D3786	330 psi minimum
Grab Tensile Elongation %, ASTM D4632	50 maximum each direction
Flow Rate, ASTM D4491	105 gal/min/ft <sup>2</sup> Minimum
- B. The fabric shall readily conform to the soil surface.

## **PART 3 EXECUTION**

### **3.1 GENERAL**

- A. Perform work in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2106, Section 2112, and the most recent special provisions except as modified herein.

### **3.2 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Identify area for placing removed materials.

### **3.3 PREPARATION**

- A. Notify Utility Companies prior to performing any Work. Call Gopher State One Call: 1-800-252-1166.
  - 1. Request underground utilities to be located and marked within and surrounding construction areas.
  - 2. Coordinate any required relocation of underground utilities with utility owner.



- B. Identify required lines, levels, contours, and datum.
- C. Notify utility companies of any utilities that need to be relocated, removed or worked around.
- D. Protect utilities indicated to remain from damage.
- E. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- F. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

### **3.4 EXCAVATION**

- A. Perform excavations as necessary to accomplish the intent of the Contract Documents.
- B. Excavations shall be performed in accordance with the recommendations contained in the Geotechnical Report.
- C. Excavations must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, "Excavations and Trenches."
- D. Remove topsoil in areas to be regraded and/or excavated without mixing with existing subgrade soils. Stockpile salvaged topsoil that will be reused.
- E. Remove subsoil from areas to be further excavated, re-landscaped, or re-graded.
- F. Remove excess subsoil not intended for reuse, from site.
- G. Excess materials or materials not to be reused on-site shall be disposed of off-site in accordance with state and local requirements.
- H. Stockpile excavated material to be reused on site in area agreed upon by the Owner/Engineer.
- I. Review all subgrades with the Geotechnical Engineer to determine suitability of subgrade soils.
- J. Test roll all proposed pavement areas with a fully loaded tandem-axle truck and have test rolling observed by Geotechnical Engineer prior to placement of additional fill or aggregate base.
- K. Subgrade under building footprints shall be held down below finished floor. Refer to Structural Drawings and specifications for requirements.
- L. When subgrades consist of SP soils, test rolling shall not be conducted until after placement of the aggregate base. Confirm presence of SP soils with Geotechnical Engineer.
- M. Remove any groundwater and/or accumulated water from excavations or subgrades prior to fill placement or construction.
- N. Provide temporary drainage where construction interferes with existing drainage.
- O. Where new sod, seed, planting beds, or other vegetative matter are shown within construction limits defined on drawings, remove existing fill soil material to depth required for topsoil and replace with new or salvaged topsoil material.
- P. Do not remove topsoil when wet.
- Q. Make soil corrections defined in the Geotechnical Report. Follow soil correction procedures and use materials defined in the Report and in these specifications.

- R. Do not remove wet subsoil, unless it is subsequently processed to obtain optimum moisture content.
- S. When excavating through roots, perform work by hand and cut roots with sharp axe.
- T. Benching Slopes: Horizontally bench existing slopes greater than 1:4 to key fill material to slope for firm bearing.
- U. Stability: Replace damaged or displaced subsoil to same requirements as for specified fill.

### **3.5 PLACEMENT AND COMPACTION**

- A. Place fill and prepare subgrades according to the recommendations contained in the Geotechnical Report and in these specifications.
- B. In areas that will receive fills, remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills.
- C. Prior to placement of fill, excavations shall be inspected by the Geotechnical Engineer to verify that all unsuitable materials have been properly removed.
- D. When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.
- E. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
- F. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.
- G. Control soil and fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Testing Agency if soil density tests indicate inadequate compaction.
- H. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or subsequent to compaction operations. (This material is not acceptable for building fill).
  - 1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
  - 2. Stockpile or spread soil material that has been removed because it is too wet to permit compaction. Assist drying by disking, harrowing, or pulverizing until moisture content is reduced to a satisfactory value.
- I. In paved areas the exposed subgrade shall be scarified to a depth of 8", blended, moisture conditioned to within moisture allowable moisture variance.
- J. All proposed pavement areas shall be test rolled in accordance with MnDOT 2111 subsequent to finish grading in the presence of the Geotechnical Engineer.

- K. Rough grade tolerances are as follows. Contractor shall be responsible for determining final grades with laser-guided equipment or survey. Subgrade elevations are subject to confirmation by the Land Surveyor.
  - 1. All building areas and areas to be paved shall be brought to within 0.10' of subgrade elevations and cross sections.
  - 2. Unpaved areas: Not more than 0.15' above or below finish grade elevations shown on the drawings.
- L. The subgrade shall reflect the same grade (percent slope) as the finish grade to ensure a consistent depth of topsoil or pavement section.

### **3.6 COMPACTION DENSITY REQUIREMENTS**

- A. Allow Geotechnical Engineer to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed Work comply with requirements.
- B. See Geotechnical Report for compaction requirements for fill and backfill.
- C. Field Density Test Report shall clearly identify the following information for each test:
  - 1. Horizontal and vertical location of test.
  - 2. Material type being tested.
  - 3. Proctor test method.
  - 4. Maximum proctor density.
  - 5. Specified density.
  - 6. Optimum moisture density.
  - 7. Field test method.
  - 8. Actual moisture content.
  - 9. Actual dry density.
  - 10. Pass/fail indication.
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained. Consult Project Geotechnical Engineer for additional or supplemental recommendations.

### **3.7 SOIL SEPARATION FABRIC**

- A. Excavate to the dimensions shown on the drawings.
- B. The foundation surface shall be relatively smooth and free of stones, sticks, and other debris or irregularities that might puncture the fabric.
- C. Line the excavation with the fabric. Overlap splices and joints a minimum of 18 inches. Joint laps shall be shingled (both in flow direction and from top of slope to bottom) to direct water flow over the joint without undermining.
- D. Place the aggregate over the fabric in lifts and compact. Placement of granular material and other construction operations shall not tear, puncture, or shift the fabric.
- E. Overlap the edge of the fabric over the top of the aggregate a minimum of 12 inches.

### **3.8 FINAL GRADING**

- A. Building and paved areas shall be final graded as follows:

1. All areas to be paved shall be brought to within 1/10 of a foot of subgrade elevations and cross sections. Uniformly slope the subexcavation bottoms to coincide with the proposed surface grades. Blade subexcavation to a smooth surface prior to proof roll.
  - a. The Contractor shall compact and shape the subgrade for its entirety as may be necessary to produce the specified density and stability in the top 12 inches of the subgrade and the grades shown on the Drawings.
- B. Turf areas shall be final graded as follows:
  1. Turf areas are defined as any area not covered by asphalt, concrete, building, aggregates, infiltration basins and bioretention basins.
  2. In turf areas, spread topsoil material to a minimum depth of 6 inches and a maximum depth of 12 inches (depth after compaction), subsequent to installation of pavements, fencing, and walks. Complete grading of site and bring entire site to finish elevations shown on drawings. General turf areas shall be bladed smooth with a skid steer, planer bar, or similar lightweight equipment.
  3. Compact the subsoil and topsoil as necessary to prevent future settlement without inhibiting vertical drainage and subsequent turf establishment.
  4. If over compaction occurs (defined as a relative density above 90% Standard Proctor density), the Contractor shall scarify the soil to full depth of topsoil and regrade as required.
  5. Turf area grade tolerance shall be not more than 0.08' (one inch) above or below finish grade elevations.
  6. Final grading of topsoil shall be accomplished immediately prior to turning over to the sodding/seeding contractors. Coordinate finish grading with landscaping contractor's schedule.
  7. Topsoil shall not be spread around the building until exterior building work (any work related to building exterior finishing that would cause disturbance to the topsoil after it is placed) is complete.
  8. Topsoil shall not be backfilled behind back of curb, pavements or walks until curbing, pavements and walks are installed.
  9. Topsoil shall not be spread until underground utilities (storm sewer, sanitary sewer and watermain) are installed.
- C. Protect newly graded areas from traffic and erosion. Repair and re-establish grades in settled, eroded and rutted areas to specified tolerances to the satisfaction of the Engineer.
- D. Maintenance of the full site shall be accomplished by this Contract until final project completion.

**END OF SECTION**

## **SECTION 31 23 33**

### **TRENCH EXCAVATION AND BACKFILLING FOR UTILITIES**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Excavating trenches for utilities.
  - 2. Compacted fill from top of utility bedding to subgrade elevations.
  - 3. Backfilling and compaction.

##### **1.2 RELATED SECTIONS:**

- A. Section 33 42 00: Stormwater Conveyance

##### **1.3 DEFINITIONS**

- A. Utility: Any buried pipe, duct, conduit, or cable.
- B. Structure: Any hydrant, curb stop, gate valve, manhole, cleanout or catch basin.

##### **1.4 SUBMITTALS**

- A. Excavation Protection Plan: Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.
- B. Product Data: Submit data for geotextile fabric indicating fabric and construction.
- C. Product Data: Submit a sieve analysis of borrow material; granular, crushed rock or any imported materials, to be used on the project prior to use of the material on the project.
- D. Materials Source: Submit name of imported fill materials suppliers.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

##### **1.5 FIELD MEASUREMENTS**

- A. Verify field measurements prior to fabrication.

##### **1.6 COORDINATION**

- A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

#### **PART 2 PRODUCTS**

##### **2.1 GRANULAR BORROW**

- A. Granular borrow for use as bedding or fill material shall be "granular bedding" in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 3149, and the most recent special provisions.

##### **2.2 CRUSHED ROCK**

- A. Crushed rock for use as bedding or fill material shall be “coarse filter aggregate” in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 3149, and the most recent special provisions.

### **PART 3 EXECUTION**

#### **3.1 GENERAL**

- A. Execution shall be in accordance with the State Plumbing Code, local jurisdiction requirements, and as shown in the plans except as modified herein.

#### **3.2 LINES AND GRADES**

- A. Lay pipes to lines and grades indicated on Drawings.
  - 1. Engineer reserves right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

#### **3.3 PREPARATION**

- A. Notify Utility Companies prior to performing any Work. Call Gopher State One Call: 1-800-252-1166.
  - 1. Request underground utilities to be located and marked within and surrounding construction areas.
  - 2. Coordinate any required relocation of underground utilities with utility owner.
- B. Identify required lines, levels, contours, and datum locations.
- C. Protect plant life, lawns, and other features remaining as portion of final landscaping.
- D. Protect benchmarks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Establish temporary traffic control and detours when trenching is performed in public right-of-way. Relocate controls and reroute traffic as required during progress of Work.
- G. Excavations in excess of 20 feet shall be designed by a licensed Engineer and a copy of this design shall be forwarded to the Engineer for their records.

#### **3.4 TRENCHING**

- A. All excavations and trenches must comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P, “Excavations and Trenches”.
- B. Remove lumped subsoil, boulders, and rock up of 1/6 cubic yard measured by volume.
- C. Do not advance open trench more than 200 feet ahead of installed pipe.
- D. Cut trenches sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.
- E. Excavate trenches to depth indicated on Drawings. Provide uniform and continuous bearing and support for bedding material and utilities.

- F. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Engineer until suitable material is encountered and fill with granular or crushed rock material.
- G. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Engineer.
- H. Excavated non-organic materials shall be salvaged and stockpiled for use as subgrade materials and for the replacement of any unsuitable materials encountered during utility installation.
- I. Excess non-organic materials not used for subgrade materials or for the replacement of unsuitable materials shall be removed from site.

### **3.5 SHEETING AND SHORING**

- A. Sheet, shore, and brace excavations to prevent danger to persons, structures, and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.
- C. Design sheeting and shoring to be removed at completion of excavation work.
- D. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- E. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

### **3.6 BACKFILLING**

- A. Backfill trenches to contours and elevations with unfrozen fill materials.
- B. No stones exceeding 6 inches in greatest dimension will be permitted in the upper 3 feet of the roadbed embankment.
- C. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
- D. Place fill material in continuous layers and compact in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2106, and the most recent special provisions.
- E. Compaction of all trench backfill shall be obtained by the "Specified Density Compaction" method described in MnDOT 2106.3G.1 unless specified otherwise in these specifications.
  - 1. The upper 3 feet of fill and fill that is adjacent to structures shall be compacted to a density of not less than 100 percent of maximum density.
  - 2. Fill below the upper 3 feet and not adjacent to structures shall be compacted to a density of not less than 95% of maximum density.
- F. The Contractor shall coordinate backfilling operations with the Owner/Engineer for the scheduling of testing for compaction.
- G. Maintain optimum moisture content of fill materials to attain required compaction density.
- H. The Contractor shall scarify, dry the backfill material, or apply water as may be necessary to obtain the required density and stability.

- I. In order to prevent future settlement of roads, lawns, driveways, and utilities, the Contractor shall compact uniformly and entirely, careful not to omit any areas.
- J. Do not leave trench open at end of working day.
- K. Protect open trench to prevent danger to the public.

### **3.7 TOLERANCES**

- A. Top Surface of Backfilling under paved areas: Plus or minus 1/4 inch from required elevations.
- B. Top Surface of General Backfilling: Plus or minus 1inch from required elevations.

### **3.8 PROTECTION OF FINISHED WORK**

- A. Reshape and re-compact fills subjected to vehicular traffic during construction

**END OF SECTION**



**SECTION 31 25 00**  
**EROSION AND SEDIMENT CONTROLS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Erosion Control.
  - 2. Sediment Control.
  - 3. Maintenance during Construction.
  - 4. Air, Land and Water Pollution.
  - 5. NPDES Permits.
- B. Related Sections:
  - 1. Section 01 50 00: Temporary Facilities and Controls
  - 2. Section 31 10 00: Site Clearing
  - 3. Section 31 22 00: Grading
  - 4. Section 31 23 33: Trench Excavation and Backfilling for Utilities

**PART 2 PRODUCTS**

**2.1 GENERAL**

- A. Materials shall be as specified in MnDOT Standard Specifications for Construction – 2020 Edition, Section 2573 and 2575.

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Execution shall be as specified in MnDOT Standard Specifications for Construction – 2020 Edition, Section 2573, MnDOT Special Provisions and as shown on the Drawings except as modified herein.
- B. The General and Supplemental specifications shall take precedence in resolving any conflict, error, etc. between the Contract Documents and any standard, specification, manual, code or instruction.
- C. The Contractor shall protect adjacent properties and water resources from erosion and sedimentation damage throughout construction.
- D. The Contractor shall notify the Engineer and Construction Manager of deficiencies or changes in the Erosion Control Plans or SWPPP required by current or changes to site conditions.
- E. The Contractor shall schedule and conduct operations to minimize the erosion of soils, to prevent the transportation of silt within and adjacent to the site.
- F. Construction of drainage infrastructure and the establishment of turf shall be done concurrently with earthwork operations or soon thereafter to minimize erosion and the transportation of sediment.

- G. The Contractor shall incorporate erosion control features as soon as practicable prior to grading operations and provide additional control measures as needed to correct conditions that develop during construction.

### **3.2 MAINTENANCE DURING CONSTRUCTION**

- A. Execution shall be as specified in MnDOT Standard Specifications for Construction – 2020 Edition, Section 1514 except as modified herein.
- B. In addition to the Contractor's requirements for sweeping as required under MnDOT 2051 (Maintenance and Restoration of Haul Roads), the Engineer may require additional sweeping of roads adjacent to the construction site to provide safe conditions for the traveling public, for environmental reasons, to meet local regulatory requirements or as otherwise directed by the Owner.
- C. All erosion control devices shall remain in place until other means of permanent control are in place.
- D. Contractor shall maintain erosion control devices throughout construction and replace them when they no longer function properly.
- E. Erosion control devices shall not be removed until the site has been permanently stabilized in accordance with NPDES permit requirements.

### **3.3 AIR, LAND, AND WATER POLLUTION**

- A. Execution shall be as specified in MnDOT Standard Specifications for Construction – 2020 Edition, Section 1717 and as shown on the Drawings except as modified herein.
- B. If during the course of the Project, the Contractor unexpectedly encounters any of the following conditions indicating the possible presence of contaminated soil, contaminated water, or regulated waste, the Contractor shall immediately stop work in the vicinity, notify the Engineer, and request suspension of work in the vicinity of the discovery area, in accordance with MnDOT 1803.4.
- C. A documented inspection and evaluation will be conducted prior to the resumption of work. The Contractor shall not resume work in the suspected area without authorization by the Owner's representative.
  - 1. Indicators of contaminated soil, ground water or surface water include, but are not limited to the following:
    - a. Odor including gasoline, diesel, creosote (odor of railroad ties), mothballs, or other chemical odor.
    - b. Soil stained green or black (but not because of organic content), or with a dark, oily appearance, or any unusual soil color or texture.
    - c. A rainbow color (sheen) on surface water or soil.
  - 2. Indicators of regulated wastes include, but are not limited to the following:
    - a. Cans, bottles, glass, scrap metal, wood (indicators of solid waste and a possible dump)
    - b. Concrete and asphalt rubble (indicators of demolition waste).
    - c. Roofing materials, shingles, siding, vermiculite, floor tiles, transite or any fibrous material (indicators of demolition waste that could contain asbestos, lead or other chemicals).
    - d. Culverts or other pipes with tar-like coating, insulation or transite (indicators of asbestos).

- e. Ash (ash from burning of regulated materials may contain lead, asbestos or other chemicals).
- f. Sandblast residue (could contain lead).
- g. Treated wood including, but not limited to products referred to as green treat, brown treat and creosote (treated wood disposal is regulated).
- h. Chemical containers such as storage tanks, drums, filters and other containers (possible sources of chemical contaminants).
- i. Old basements with intact floor tiles or insulation (could contain asbestos), sumps (could contain chemical waste), waste traps (could contain oily wastes) and cesspools (could contain chemical or oily wastes).

### 3.4 NPDES PERMITS

- A. Execution shall be in accordance with the rules, regulations, and standards adopted and established by the Minnesota Pollution Control Agency (M.P.C.A.), and as specified in MnDOT Standard Specifications for Construction – 2020 Edition, Section 1717 except as modified herein.
- B. By signing the Proposal and completing the NPDES permit application, the Contractor is a co-permittee with the Owner to ensure compliance with the terms and conditions of the General Storm Water Permit (MN R100001) and is responsible for those portions of the permit where the operator is referenced. This Permit establishes conditions for discharging storm water to waters of the State from construction activities that disturb 0.4 hectares [1 acre] or more of total land area. A copy of the "General Permit Authorization to Discharge Storm Water Associated with a Construction Activity Under the National Pollutant Discharge Elimination System (NPDES)/State Disposal System Permit Program" is available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html> or by calling 651-296-3890.
- C. The Owner will provide the Contractor with the application form with Sections 1 thru 3 and 5 thru 14 completed, as part of the Contract document package. The Contractor shall fill out the Contractor's portion (Section 4 and Section 15), complete the application process, and post the Permit and MPCA's letter of coverage onsite.
- D. A NPDES Permit Declaration form will be sent to the Contractor with the Contract award packet. A copy of the signed permit application and a signed Permit Declaration form must be returned with the Contract and Bond. Submittal of the copy of the signed permit application and Permit Declaration is mandatory for Contract approval. No work which disturbs soil and/or work in waters of the state will be allowed on this Project until the NPDES Permit is in effect and the Department has received the required documentation.
- E. Contractor must provide an Erosion Control Supervisor as per MnDOT 2573.3. The Contractor is solely responsible for all inspections, maintenance, and records required in the General Permit, Section 11. Contractor must use standard forms for logging all required inspection and maintenance activities. Contractor must submit all inspection and maintenance forms used on this Project to the Engineer weekly for retention in accordance with the permit. The Contractor must also have the forms available for on-site review.
- F. Contractor must immediately notify the Engineer of any site visits by Local Permitting Authorities performed in accordance with Section 24.10 of the permit. The Contractor must obtain the Engineer's approval before starting any work required by regulatory authorities

which (1) the Contractor believes will result in additional compensation; or (2) will impact the design or requirements of the Contract documents or impact traffic.

- G. The Contractor must use Emergency Best Management Practices to help minimize turbidity of surface waters and relieve runoff from extreme weather events. The Contractor must report a stormwater sediment release from the project site to the Minnesota Duty Officer and the Resident Engineer at the time the Contractor or Department discovers the release. The Contractor must also immediately contact the State Duty Officer (at 1-800-422-0798 or 1-651-649-5451) during any emergency situation involving an uncontrolled stormwater release.
- H. Contractor must Review and abide by the instructions contained in the permit package. The Contractor will indemnify and hold the Owner harmless for any fines or sanctions imposed by a regulatory authority and arising from the Contractor's acts or omissions in complying, or failing to comply, with the permit or erosion control provisions of this Contract.
- I. The NPDES Permit refers to a Storm Water Pollution Prevention Plan (SWPPP). This Project's SWPPP requirement is addressed throughout the Contract, as well as this Project's Plan. The following table identifies NPDES permit requirements and cross-references where this Contract addresses each requirement. This table is for ease of reference only and may be incomplete.

<b>NPDES Permit Requirements</b>	<b>Cross-Reference within this Contract</b>
Obtain NPDES Permit; Permit Compliance; Submit Notice of Termination	MnDOT 1701, 1702; and 1717 Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Certified Personnel in Erosion / Sediment Control Site Management Develop a Chain of Command	MnDOT 1506, 1717, and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Project / Weekly Schedule (for Erosion / Sediment Control) Completing Inspection / Maintenance Log / Records	MnDOT 1717 and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and
Project Specific Construction Staging	The Plans; MnDOT 1717; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and 1806 (Determination and Extension of Contract Time)
Temporary Erosion / Sediment Control	The Plans; MnDOT 2573 and 2575
Maintenance of Devices / Sediment removal Removal or Tracked Sediment Removal of Devices	The Plans; MnDOT 1717 and 2573; Special Provisions: 1514 (Maintenance During Construction), 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Dewatering	MnDOT 2106.3 and 2451.3C; May also require DNR Permit
Temporary work not shown in the Plans Grading areas (unfinished acres exposed to erosion)	MnDOT 1717, 2573, and 2575; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Permanent Erosion / Sediment Control and Turf Establishment	The Plans; MnDOT 1717, 2573, and 2575; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)

- J. Final payment will be issued when all erosion control items have been removed and the Contractor has submitted a signed Notice of Termination to the Engineer.

### **3.5 TEMPORARY STABILIZATION & PROTECTION**

- A. If grading operations are suspended or areas are not worked in for longer than 7 days, all areas of bare soil exposed to possible erosion shall be shaped to drain with minimum potential for erosion and then be temporarily seeded using Rapid Stabilization Method 3 as described in MnDOT 2575 Table 2575-3.
- B. Temporary berms, dikes, slope drains or sedimentation basins will be required where possibility for water pollution may exist and permanent erosion controls are not operative.

**END OF SECTION**

**SECTION 32 11 23**  
**AGGREGATE BASE COURSE**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Stone base course.
- B. Related Sections:
  - 1. Section 31 22 00: Grading
  - 2. Section 32 12 16: Asphalt Paving
  - 3. Section 32 13 13: Concrete Paving

**1.2 SUBMITTALS**

- A. Materials Source: Submit name of imported fill materials suppliers.
- B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

**1.3 QUALITY ASSURANCE**

- A. Furnish each aggregate material from single source throughout the Work.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

- A. The class of aggregate to be used on the project shall be in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 3138, and the most current MnDOT special provisions.

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Perform work in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2211, and the most current MnDOT special provisions.

**3.2 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify substrate has been inspected, gradients and elevations are correct, and are dry.

**3.3 PREPARATION**

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting as needed (also refer to Section 31 23 33: Trench Excavation and Backfilling for Utilities).
- B. Do not place fill on soft, muddy, or frozen surfaces.

**3.4 AGGREGATE BASE PLACEMENT**

- A. Level and contour surfaces to elevations and gradients indicated.
- B. Maintain optimum moisture content of fill materials to attain required compaction density.

- C. Compaction shall be achieved by the "Specified Density Method" as described in MnDOT 2211.3.D.2.a.
  - 1. The full thickness of each layer shall be compacted to not less than 100 percent of maximum density. At the time of compaction, the moisture content of the base material shall be not less than 65 percent of optimum moisture.

### **3.5 TOLERANCES**

- A. Maximum Variation From Flat Surface: 1/8 inch measured with 10 foot straight edge.
- B. Maximum Variation From Thickness: 1/8 inch.
- C. Maximum Variation From Elevation: 1/8 inch.

### **3.6 FIELD QUALITY CONTROL**

- A. Borrow Material
  - 1. A sieve analysis of the borrow material to be used shall be supplied by the Contractor prior to use for each borrow source.
  - 2. Three samples shall be taken for sieve analysis on the first day of production.
    - a. One sample shall be tested and if passing, no other testing is necessary.
    - b. If the first sample fails, the other two samples shall be tested to determine acceptance and payment reductions.
    - c. If samples continue to fail, the Engineer reserves the right to stop work until suitable material and passing tests are obtained.
- B. The Owner or the Engineer will at random intervals check the depth of aggregate base to ensure conformance with the Contract documents. The Contractor shall be available to verify the Owner/Engineer's measurements and determine any necessary corrective action.

**END OF SECTION**



## **SECTION 32 12 16**

### **ASPHALT PAVING**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Bituminous paving.
  - 2. Bituminous non-wearing and wearing course.
  - 3. Bituminous tack coat.
- B. Related Sections:
  - 1. Section 31 22 00: Grading
  - 2. Section 32 11 23: Aggregate Base Course
  - 3. Section 32 17 23: Pavement Markings

##### **1.2 SUBMITTALS**

- A. Product Data: Submit product information and mix design.
- B. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

##### **1.3 QUALITY ASSURANCE**

- A. Obtain materials from same source throughout.

##### **1.4 ENVIRONMENTAL REQUIREMENTS**

- A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

#### **PART 2 PRODUCTS**

##### **2.1 MATERIALS**

- A. Non-wearing Course: SPNWB330B
- B. Wearing Course: SPWEA340B
- C. Heavy Duty Wearing Course: SPWEB340B

##### **2.2 SOURCE QUALITY CONTROL AND TESTS**

- A. Submit proposed mix design of each class of mix for review prior to beginning of Work.
- B. Test samples in accordance with MnDOT Standard Specifications for Construction, 2020 Edition and the most current MnDOT special provisions.

#### **PART 3 EXECUTION**

##### **3.1 GENERAL**

- A. Perform Work in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2360, and the most current MnDOT special provisions.

##### **3.2 EXAMINATION**

- A. Verify existing conditions before starting Work.

- B. Verify compacted aggregate base is dry and ready to support paving and imposed loads.
- C. Verify gradients and elevations of base are correct.
- D. Verify catch basin grates and frames and manhole castings are installed in correct position and elevation.

### **3.3 AGGREGATE BASE**

- A. Aggregate base: Install in accordance with Section 32 11 23: Aggregate Base Course.

### **3.4 PREPARATION - TACK COAT**

- A. Apply tack coat in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2357, and the most current MnDOT special provisions.
- B. Tack coat operations shall be conducted in a manner that offers the least inconvenience to traffic, with movement in at least one direction permitted at all times without pickup or tracking of the bituminous material.
- C. The tack coat shall not be applied when the road surface or weather conditions are unsuitable as determined by the Engineer. The daily application of tack coat shall be limited to approximately the area on which construction of the subsequent bituminous course can reasonably be expected to be completed that day.
- D. At the time of applying bituminous tack coat material, the surface shall be dry and clean and all necessary repairs or reconditioning work shall have been completed as provided for in the Contract and approved by the Engineer.
- E. All objectionable foreign matter on the surface shall be removed and disposed of by the Contractor as the Engineer approves.
- F. Preparatory to placing an abutting bituminous course, the contact surfaces of all fixed structures and the edge of the in-place mixture in all courses at transverse joints and in the wearing course at longitudinal joints shall be given a uniform coating of liquid asphalt or emulsified asphalt, applied by methods that will ensure uniform coating.

### **3.5 PLACING ASPHALT PAVEMENT - DOUBLE COURSE**

- A. Place asphalt binder course within 24 hours of applying tack coat.
- B. Place wearing course within 24 hours of placing and compacting binder course. When binder course is placed more than 24 hours before placing wearing course, clean surface and apply tack coat before placing wearing course.
- C. Compact each course by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- D. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

### **3.6 ASPHALT REQUIREMENTS AND PAYMENTS**

- A. Delete and replace the first paragraph of MnDOT 2360.3D.1 with the following:
  - 1. Compact the pavement to at least the minimum required Maximum Density values in accordance with Table 2360.3-1.
- B. Delete and replace Table 2360.3-2 of MnDOT 2360.3D.1 with BLANK.

- C. Delete and replace MnDOT 2360.3D.1.j with the following:
  - 1. D.1.j Companion Core Testing
  - 2. The Department will select at least one of the two companion cores per lot to test for verification.
- D. Delete and replace MnDOT 2360.3D.1.n with BLANK.
- E. Delete and replace MnDOT 2360.3D.1.p with BLANK.

### **3.7 TOLERANCES**

- A. Flatness: Maximum variation of 1/8 inch measured with 10 foot straight edge.
- B. Scheduled Compacted Thickness: Within 1/8 inch.
- C. Variation from Indicated Elevation: Within 1/8 inch.

### **3.8 FIELD QUALITY CONTROL**

- A. Take samples and perform tests in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2360, and the most current MnDOT special provisions.
- B. The surface smoothness of the plant mixed asphalt pavement will not be evaluated.

### **3.9 PROTECTION OF FINISHED WORK**

- A. Immediately after placement, protect pavement from mechanical injury.

**END OF SECTION**



**SECTION 32 13 13**  
**CONCRETE PAVING**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Concrete pavements.
  - 2. Concrete sidewalks.
  - 3. Concrete curbs.
- B. Related Sections:
  - 1. Section 31 22 00: Grading
  - 2. Section 32 11 23: Aggregate Base Course
  - 3. Section 32 12 16: Asphalt Paving

**1.2 SUBMITTALS**

- A. Product Data: Submit data on curing compounds.
- B. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of Work.

**1.3 QUALITY ASSURANCE**

- A. Obtain cementitious materials from same source throughout the project.
- B. Obtain aggregate materials from same source throughout the project.

**1.4 ENVIRONMENTAL REQUIREMENTS**

- A. Do not place concrete when base surface temperature is less than 40 degrees F or surface is wet or frozen.

**PART 2 PRODUCTS**

**2.1 REINFORCEMENT**

- A. Reinforcing Steel shall be epoxy coated as specified in MnDOT Standard Specifications for Construction, 2020 Edition, Section 3301, and the most current MnDOT special provisions.
- B. Dowel Bar shall be as specified in MnDOT Standard Specifications for Construction, 2020 Edition, Section 3302, and the most current MnDOT special provisions.
- C. Reinforcing Steel Fabric shall be as specified in MnDOT Standard Specifications for Construction, 2020 Edition, Section 3303, and the most current MnDOT special provisions.

**2.2 CONCRETE MATERIALS**

- A. Concrete Materials shall be as specified in MnDOT Standard Specifications for Construction, 2020 Edition, Section 2461, the most current MnDOT special provisions, and the "Certified Ready-Mix Plants" special provision. The concrete mix design designations for each element of work are listed below.
  - 1. Pavement – 3F52.
  - 2. Valley Gutter – 3F52.

3. Slip-form Curb & Gutter – 3F32.
4. Hand-form Curb & Gutter – 3F52.
5. Sidewalks – 3F52.

### **2.3 SOURCE QUALITY CONTROL AND TESTS**

- A. Provide mix designs for concrete pavement, concrete curbs and gutters, and concrete sidewalks.
- B. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify existing conditions before starting work.
- B. Verify compacted aggregate base is acceptable and ready to support paving and imposed loads.
- C. Verify gradients and elevations of base are correct.
- D. Verify catch basin grates and frames and manhole castings are installed in correct position and elevation.

### **3.2 SUBBASE**

- A. Aggregate Base Course: Install as specified in Section 32 11 23.

### **3.3 PREPARATION**

- A. Moisten base to minimize absorption of water from fresh concrete.
- B. Coat surfaces of manhole and catch basin frames with oil to prevent bond with concrete pavement.
- C. Notify Owner/Engineer minimum 48 hours prior to commencement of concreting operations.

### **3.4 FORMING**

- A. Place and secure forms to correct location, dimension, profile, and gradient.
- B. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- C. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.

### **3.5 REINFORCEMENT**

- A. Place reinforcement and dowels as indicated on details in the Plans.

### **3.6 PLACING CONCRETE**

- A. Place concrete curb and gutter in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2531, and the most current MnDOT special provisions.
- B. Place concrete sidewalks in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2521, and the most current MnDOT special provisions.

- C. Place concrete pavement in accordance with MnDOT Standard Specifications for Construction, 2020 Edition, Section 2301, and the most current MnDOT special provisions.
- D. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
- E. Place concrete continuously over the full width of the panel and between predetermined construction joints.
- F. Do not break or interrupt successive pours such that cold joints occur.

### **3.7 JOINTS**

- A. Provide joints per MnDOT Standard Specifications for Construction, 2020 Edition, Section 2301, Section 2521, Section 2531, and the most current MnDOT special provisions. Align curb and sidewalk joints.
- B. Provide scored or sawn joints between sidewalks and curbs and between curbs and pavement as shown on details in the Plans.
- C. Provide keyed joints as indicated on details in the Plans.

### **3.8 FINISHING**

- A. Driveway Paving: Light broom, parallel to the direction of travel.
- B. Sidewalk Paving: Light broom, perpendicular to the direction of travel.
- C. Curbs and Gutters: Light broom, perpendicular to the direction of travel.
- D. Place curing compound on exposed concrete surfaces immediately after finishing.

### **3.9 TOLERANCES**

- A. Maximum Variation of Surface Flatness: 1/4 in 10 ft.
- B. Maximum Variation From True Position: 1/4 inch.

### **3.10 FIELD QUALITY CONTROL**

- A. Three concrete test cylinders will be taken for every 100 or less cubic yards of each class of concrete placed each day.
- B. One additional test cylinder will be taken during cold weather and cured on site under same conditions as concrete it represents.
- C. One slump, and one air test will be taken for each set of test cylinders taken.
- D. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

### **3.11 PROTECTION**

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.
- B. Do not permit pedestrian or vehicular traffic over pavements, curbs and sidewalks for 5 days minimum after finishing.

**END OF SECTION**





## **SECTION 32 17 23**

### **PAVEMENT MARKINGS**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. This work shall consist of furnishing and applying paint on pavement surfaces, in the form of traffic lanes, parking bays, areas restricted to handicapped persons, crosswalks, and other detail pavement markings, in accordance with the details as shown or as prescribed by the Owner.

##### **1.2 SUBMITTALS**

- A. Furnish Manufacturer's Certificates and Data certifying that the following materials conform to the requirements specified.

#### **PART 2 PRODUCTS**

##### **2.1 PAINT**

- A. Paint for marking pavement (parking lot and zone marking) shall meet MnDOT spec 3591. Owner will make color selections.

##### **2.2 PAINT APPLICATOR**

- A. Apply all marking by approved mechanical equipment. The equipment shall provide constant agitation of paint and travel at controlled speeds. Synchronize one or more paint "guns" to automatically begin and cut off paint flow in the case of skip lines. The equipment shall have manual control to apply continuous lines of varying length and marking widths as shown. Provide pneumatic spray guns for hand application of paint in areas where a mobile paint applicator cannot be used, use a separate piece of equipment. An experienced technician that is thoroughly familiar with equipment, materials, and marking layouts shall control all painting equipment and operations.

##### **2.3 SANDBLASTING EQUIPMENT**

- A. Sandblasting equipment shall include an air compressor, hoses, and nozzles of proper size and capacity as required for cleaning surfaces to be painted. The compressor shall furnish not less than 150 cfm of air at a pressure of not less than 90 psi at each nozzle used.

#### **PART 3 EXECUTION**

##### **3.1 SURFACE PREPARATION**

- A. Allow new pavement surfaces to cure for a period of not less than 14 days before application of marking materials.
- B. Thoroughly clean all surfaces to be marked before application of paint. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods. Completely remove rubber deposits, existing paint markings, and other coatings adhering to the pavement with scrapers, wire brushings, sandblasting, mechanical abrasion, or approved chemicals.

##### **3.2 APPLICATION**

- A. Apply uniformly painted pavement marking of required color(s), length, and width with true, sharp edges and ends on properly cured, prepared, and dried surfaces in conformance with the details as shown and established control points. The length and width of lines shall conform within a tolerance of plus or minus 3 inches and plus or minus 1/8 inch, respectively, in the case of skip markings. The length of intervals shall not exceed the line length tolerance. Temperature of the surface to be painted and the atmosphere shall be above 50°F and less than 95°F. Apply the paint at a wet film thickness of 0.015 inch. Apply paint in one coat. Markings showing light spots may receive additional coats. The maximum drying time requirements of the paint specifications will be strictly enforced, to prevent undue softening of asphalt, and pick-up, displacement, or discoloration by tires of traffic. If there is a deficiency in drying of the marking, discontinue paint operations until cause of the slow drying is determined and corrected. Remove and replace marking that is applied at less than minimum material rates; deviates from true alignment; exceeds stipulated length and width tolerances; or shows light spots, smears, or other deficiencies or irregularities. Use carefully controlled sand blasting, approved grinding equipment, or other approved method to remove marking so that the surface to which the marking was applied will not be damaged.

### **3.3 PROTECTION**

- A. Conduct operations in such a manner that necessary traffic can move without hindrance. Protect the newly painted markings so that, insofar as possible, the tires of passing vehicles will not pick up paint. Place warning signs at the beginning of the wet line, and at points well in advance of the marking equipment for alerting approaching traffic from both directions. Place small flags or other similarly effective small objects near freshly applied markings at frequent intervals to reduce crossing by traffic. Efface and replace damaged portions of markings at no additional cost to the Owner.

### **3.4 DETAIL PAVEMENT MARKING**

- A. Use Detail Pavement Markings, exclusive of actual traffic lane marking, at exit and entrance islands and turnouts, on curbs, at crosswalks, at parking bays, and at such other locations as shown. Show the International Handicapped Symbol at indicated parking spaces. Color shall be selected by owner. Apply paint for the symbol using a suitable template that will provide a pavement marking with true, sharp edges and ends. Place detail pavement markings of the color(s), width(s) and length(s), and design pattern at the locations shown.

### **3.5 FINAL CLEAN-UP**

- A. Remove all debris, rubbish and excess material from the Station.

**END OF SECTION**

## **SECTION 32 58 00**

### **LANDSCAPING**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Final Grading
  - 2. Fertilizer
  - 3. Seed
  - 4. Hydro-mulch

##### **1.2 SUBMITTALS**

- A. Furnish the Engineer with the Supplier's or Manufacturer's product specification data or testing results stating the materials furnished meet the requirements of the specifications.
- B. Furnish the Engineer with a certificate of compliance stating the species, sizes, quantities furnished, and nursery supplier.

#### **PART 2 PRODUCTS**

##### **2.1 FERTILIZER**

- A. Fertilizers shall be applied at a rate determined by the seed or sod supplier. The type of fertilizer shall be determined based on the type and properties of the topsoil, seed or sod.
- B. The Contractor shall apply the fertilizers until the turf has been established, i.e. until all seeded areas have developed into turf or all new sod areas have developed a sound root structure.
- C. Once the turf has been established and accepted by the Engineer and Owner, the Owner will be responsible for further fertilizing of the landscaped areas.

##### **2.2 SEED**

- A. Furnish materials in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 3876, and the most current MnDOT special provisions except as modified herein.
- B. All seed shall conform to the latest seed law of the State, including those governing labeling and weed seed tolerances. Tolerances for Germination and Purity, as determined by the Department of Agriculture, shall only apply to seed that has been previously tested and approved by the Department of Agriculture as a seed lot.
- C. All native grass, sedge, rushes and forbs seed shall be either origin certified or wild-type. Origin Certified Seed, designated as MCIA yellow tag species shall be used in all native seed mixes. Wild type may be substituted for yellow tag species only by obtaining approval of the Engineer and the Erosion Control Engineering Unit from the Office of Environmental Services. Origin shall be clearly identified on the seed label for all seed, including native forbs.

##### **2.3 MULCH & HYDRAULIC SOIL STABILIZER**

- A. Furnish materials in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 3882, Section 3884, and the most current MnDOT special provisions.

#### **2.4 FERTILIZER**

- A. Furnish materials in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 3881, and the most current MnDOT special provisions.

#### **2.5 ROLLED EROSION PREVENTION PRODUCTS**

- A. Furnish materials in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 3885, and the most current MnDOT special provisions.

#### **2.6 WATER**

- A. Water shall be clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

### **PART 3 EXECUTION**

#### **3.1 GENERAL**

- A. Perform Work in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 2575, and the most current MnDOT special provisions.
- B. The Contractor shall be responsible for temporary seeding and all costs associate with temporary seeding to comply with NPDES permit requirements and MnDOT seeding dates identified in MnDOT Standard Specifications for Construction, Latest Edition, Section 2575, and the most current MnDOT special provisions.

#### **3.2 FINISH GRADING**

- A. Verify subgrade and trench backfilling have been inspected.
- B. Verify subgrade has been contoured and compacted.
- C. Where topsoil is to be placed, scarify surface to depth of 4 inches
- D. In areas where vehicles or equipment have compacted soil, scarify surface to depth of 6 inches.
- E. Place topsoil in areas where seeding, sod, and planting are indicated.
- F. Place topsoil to a minimum of 4" compacted thickness.
- G. Place topsoil during dry weather.
- H. Remove roots, weeds, rocks, and foreign material while spreading and prior to seeding or sod placement.
- I. Near plants spread topsoil manually to prevent damage.
- J. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.
- K. Lightly compact placed topsoil.

#### **3.3 SOIL PREPARATION**

- A. Soil preparation shall be per MnDOT Standard Specifications for Construction, Latest Edition, Section 2574, and the most current MnDOT special provisions.

- B. Immediately prior to placing the topsoil, scarify the existing soils to a minimum depth of 6 inches for all areas on slopes shallower than 2 horizontal to 1 vertical.
- C. Perform soil preparation immediately prior to seeding or placing sod to prevent undesirable weed growth or soil erosion.
- D. Place the topsoil and spread uniformly over lawn areas to a minimum depth of 4 inches, unless a specific depth is stated elsewhere. Firm and smooth the topsoil after working the soil.
- E. Apply a starter fertilizer at the Manufacturer's or Supplier's recommended rates and work into the topsoil. The lag time between seeding or placing sod and fertilizing shall not exceed 48 hours.
- F. Rake the surface until it is smooth and of uniform fine texture immediately prior to seeding or placing sod.

### **3.4 SEEDING**

- A. The seed mixture shall be placed with a seed drill that will accurately meter the types of seed to be planted and keep all seeds uniformly mixed during drilling. The application rate for seed mixes 25-151 shall be 200 lbs/acre. The drill shall be equipped with disk furrow openers and packer assembly to compact the soil directly over the drill row. Seeding shall be done at a right angle to the surface drainage. The seeding shall be done with two passes over the entire area, with the second pass in a direction at a right angle to the first pass.
- B. Seeded areas shall have the seedbed firmed after seeding and prior to mulching. Soil firming shall be done with a drag cultipacker or other approved soil firming equipment. On slopes too steep to operate mechanical equipment, the seed shall be covered by hand raking or other approved means, wherever feasible, prior to mulching. Accomplish the soil firming or seed covering immediately after seeding.
- C. The mulch shall be spread by mechanical means to provide a uniform distribution at an application rate of 2.0 tons/acre of MnDOT Type 3 Mulch.
- D. Seed placed under the Contract shall be fertilized and watered and maintained by the Contractor until it has reached 70% density of its expected final growth.

### **3.5 HYDROSEEDING**

- A. Mix the seed, fertilizer, and mulch material in the required amount of water to produce a slurry mixture.
- B. Mulching shall be executed in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 2575, and the most current MnDOT special provisions.
- C. Mulch shall be Type 4 in areas seeded with MnDOT seed mixture 25-151 and applied at a rate of 1.5 tons per acre immediately following seeding and shall be immediately over-sprayed with Stabilized Fiber Matrix at 750 lbs/acre.
- D. Apply water with fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.
- E. Incorporate the mulch into the slurry mix after the seed and fertilizer have been thoroughly mixed.
- F. Direct the spray during the application to obtain a uniform material distribution.

- G. Empty the slurry mixture within one hour after the seed is added to the tank.
- H. Hydroseed placed under the Contract shall be fertilized and watered and maintained by the Contractor until it has reached 70% density of its expected final growth.

### **3.6 ROLLED EROSION PREVENTION PRODUCTS**

- A. Rolled erosion prevention products shall be executed in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 2575, and the most current MnDOT special provisions.
- B. Temporary rolled erosion prevention products shall be Category 20 unless otherwise shown on the Plans and shall be used with the seed mixtures designated on the Plans.

### **3.7 MAINTENANCE**

- A. Water to prevent grass and soil from drying out.
- B. Roll surface to remove minor depressions or irregularities.
- C. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.
- D. Immediately reseed areas showing bare spots.
- E. Repair washouts or gullies.

### **3.8 PROTECTION AND CLEANING**

- A. Keep the pavements clean and the work area in an orderly condition during landscaping work.
- B. Protect the landscape work and materials from damage due to landscape operations or by other Contractors and trades, and trespassers. Maintain the protection measures during the installation and maintenance periods.

**END OF SECTION**

**SECTION 33 42 00**  
**STORMWATER CONVEYANCE**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. PVC pipe sewer.
  - 2. HDPE pipe sewer.
  - 3. RCP pipe sewer.
  - 4. Ductile Iron Pipe.
  - 5. Nyloplast Drain Basin.
  - 6. Concrete Manholes and Catch Basins.
- B. Related Sections
  - 1. Section 31 23 33: Trench Excavation and Backfilling for Utilities
  - 2. Section 31 25 00: Erosion and Sediment Controls

**1.2 SUBMITTALS**

- A. Product Data:
  - 1. Submit data on pipe, fittings and accessories.
  - 2. Submit shop drawings of the storm sewer structures to the Engineer for review prior to fabrication.
- B. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.

**1.3 CLOSEOUT SUBMITTALS**

- A. Project Record Documents:
  - 1. Accurately record actual locations of pipe runs, connections, and invert elevations.
  - 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

**PART 2 PRODUCTS**

**2.1 GENERAL**

- A. Materials shall be in accordance with MnDOT Standard Specifications for Construction, Latest Edition, Section 2501, Section 2502, Section 2503, Section 2506, Section 2511, and the most current MnDOT special provisions.

**2.2 PVC STORM SEWER PIPE**

- A. All PVC pipe and fittings shall be manufactured and constructed in accordance with the State Plumbing Code and any local jurisdiction requirements.

**2.3 HIGH DENSITY POLYETHYLENE PIPE**

- A. All HDPE pipe and fittings shall be manufactured and constructed in accordance with the State Plumbing Code and any local jurisdiction requirements.

- B. If HDPE pipe is shown as perforated on the plans or details, it shall have a geotextile wrap/sock.
- C. End section joints shall be tied and provided with approved trash guard.

## **2.4 CONCRETE MANHOLES AND CATCH BASINS**

- A. Shall be pre-cast concrete meeting the requirements of ASTM Specification C-478 and MnDOT Standard Specifications for Construction, Latest Edition, Section 2506, and the most current MnDOT special provisions.
- B. Manholes and catch basins shall conform to MnDOT Standard Plate 4003, 4005, or 4006 as applicable by the design designated on the plans.
- C. All joints shall be gasketed.

## **2.5 AREA DRAIN BASINS**

- A. The surface drainage inlets shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc. or engineer approved equal.
- B. PVC surface drainage inlets shall include the drain basin type as indicated on the contract drawing and referenced within the contract specifications. The ductile iron grates for each of these fittings are to be considered an integral part of the surface drainage inlet and shall be furnished by the same manufacturer.
- C. Drain basins required for this contract shall be manufactured from PVC pipe stock, utilizing a thermoforming process to reform the pipe stock to the specified configuration.
- D. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212. The flexible elastomeric seals shall conform to ASTM F477. The pipe bell spigot shall be joined to the main body of the drain basin.
- E. The raw material used to manufacture the pipe stock that is used to manufacture the main body and pipe stubs of the surface drainage inlets shall conform to ASTM D1784 cell class 12454.
- F. The grates and frames furnished for all area drain inlets shall be ductile iron for sizes 8" – 30" and shall be made specifically for each basin so as to provide a round bottom flange that closely matches the diameter of the area drain inlet. Grates for drain basins shall be capable of supporting various wheel loads as specified by Nyloplast. Ductile iron used in the manufacture of the castings shall conform to ASTM A536 grade 70-50-05. Grates and covers shall be painted black.

## **PART 3 EXECUTION**

### **3.1 GENERAL**

- A. Execution shall be as specified in the State Plumbing Code and MnDOT Standard Specifications for Construction, Latest Edition, Section 2501, Section 2502, Section 2503, Section 2506, Section 2511, and the most current MnDOT special provisions.

### **3.2 EXAMINATION**

- A. Verify existing conditions before starting work.



- B. Verify existing utility sewer main size, location, and inverts are as indicated on Drawings.

### **3.3 EXCAVATION, TRENCHING & BEDDING**

- A. Excavate pipe trench in accordance with Section 31 23 33: Trenching Excavation and Backfilling for Utilities for the work of this section.
- B. Granular bedding material and encasements are required as indicated in the plans.
- C. In wet or unsuitable soil conditions, the Contractor shall excavate 6" below the bottom of the pipe, furnish and install a 6" crushed rock foundation to provide support for the pipe installation. Foundation rock will be incidental to pipe installation price.
- D. The Contractor shall not impede existing drainage ways during construction, if necessary, the Contractor shall temporarily bypass until permanent measures are operational.

### **3.4 PREPARATION**

- A. Remove large stones or other hard matter which could damage piping or impede consistent backfilling or compaction.

### **3.5 PIPE SEWERS AND CULVERTS**

- A. All culverts or pipe sewers to be removed or salvaged and reinstalled shall be replaced at the same location and elevation unless otherwise shown on the plans.
- B. All existing pipe sewers or culverts are to remain in place if possible unless otherwise shown on the plans.

### **3.6 AREA DRAIN BASINS**

- A. The specified area drain basins shall be installed using conventional flexible pipe backfill materials and procedures.
- B. The backfill material shall be crushed stone or other granular material meeting the requirements of class 1, class 2 or class 3 material as defined in ASTM D2321.
- C. Bedding and backfill for area drains shall be well placed and compacted uniformly in accordance with ASTM D2321.
- D. The area drain body will be cut at the time of the final grade. No brick, stone or concrete block shall be used to set the grate to final elevation.

### **3.7 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Protect pipe and bedding from damage or displacement until backfilling operation is in progress.

**END OF SECTION**



**SECTION 33 46 11**  
**STORMWATER MANAGEMENT**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Related Sections
  - 1. Division 1: General Requirements
  - 2. Section 31 05 16: Aggregates for Earthwork
  - 3. Section 31 22 00: Grading
  - 4. Section 31 23 33: Trench Excavation and Backfilling for Utilities
  - 5. Section 31 25 00: Erosion and Sediment Controls

**1.2 SUBMITTALS**

- A. Product Data: Submit data on pond mixes including sand, and amendments.
- B. Shop Drawings: Submit shop drawings of the storm sewer structures to the Engineer for review prior to fabrication.
- C. Manufacturer's Installation Instructions: Submit special procedures required to install Products specified.

**1.3 CLOSEOUT SUBMITTALS**

- A. Project Record Documents:
  - 1. Accurately record actual locations of pipe runs, connections, and invert elevations.
  - 2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

**PART 2 PRODUCTS**

NONE THIS SECTION

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Biofiltration and infiltration areas are shown on the Plans.
- B. Areas that will be used for temporary erosion control basins shall be established early in the project.
- C. Temporary erosion control basin areas that will be used as final stormwater best management practices shall be protected as outlined in the Stormwater Pollution Prevention Plan (SWPPP).

**3.2 INFILTRATION AREAS**

- A. Infiltration areas are shown on the plans.
- B. Infiltration areas shall be protected during construction as outlined in the Stormwater Pollution Prevention Plan (SWPPP).
- C. Excavate to subgrade elevation after entire site is stabilized unless otherwise authorized by Owner or Owner's representative.

- D. Once subgrade elevation is reached the top 12" shall be ripped.
- E. Infiltration areas shall be compacted with low impact.

### **3.3 QUALITY ASSURANCE**

- A. Infiltration rate shall be determined by a double ring infiltrometer test for infiltration areas after completion and site has been stabilized. Contractor shall coordinate with Geotechnical Engineer to perform the test.
- B. Variances between the field Infiltrometer Test and the infiltration rate listed in the Stormwater Management Study for the project to be discussed with the Engineer to determine if modifications to the basin, outlet structure, grading or other improvements is needed.
- C. If the Infiltrometer Test exceeds the maximum infiltration rate of 8.3 inch/hour, the Contractor shall amend the soils in the basin to reduce the infiltration rate to meet MPCA guidelines.

**END OF SECTION**

## APPENDIX A

### Geotechnical Report



# Geotechnical Evaluation Report

School Site Improvements  
Talahi Community School and Kennedy Community School  
St. Cloud and St. Joseph, Minnesota

*Prepared for*

**Design Tree Engineering, Inc.**

## Professional Certification:

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

Steven A. Thayer, PE  
Senior Engineer  
License Number: 24674  
February 12, 2021



February 12, 2021

Project B2100554

Jeremy Anderson, PE  
Design Tree Engineering, Inc.  
120 17<sup>th</sup> Avenue West  
Alexandria, MN 56308

Re: Geotechnical Evaluation  
School Site Improvements  
Talahi Community School and Kennedy Community School  
St. Cloud and St. Joseph, Minnesota

Dear Jeremy:

We are pleased to present this Geotechnical Evaluation Report for the parking lot improvement projects at the referenced school sites.

Thank you for making Braun Intertec your geotechnical consultant for this project. If you have questions about this report, or if there are other services that we can provide in support of our work to date, please contact Steve Thayer at 320.980.3187 (sthayer@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION



Colin L. Anderson, EIT  
Staff Engineer



Steven A. Thayer, PE  
Senior Engineer



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## Appendix

Soil Boring Location Sketches (2)  
 Log of Boring Sheets ST-1 to ST-7  
 Descriptive Terminology of Soil

## **A. Introduction**

### **A.1. Project Description**

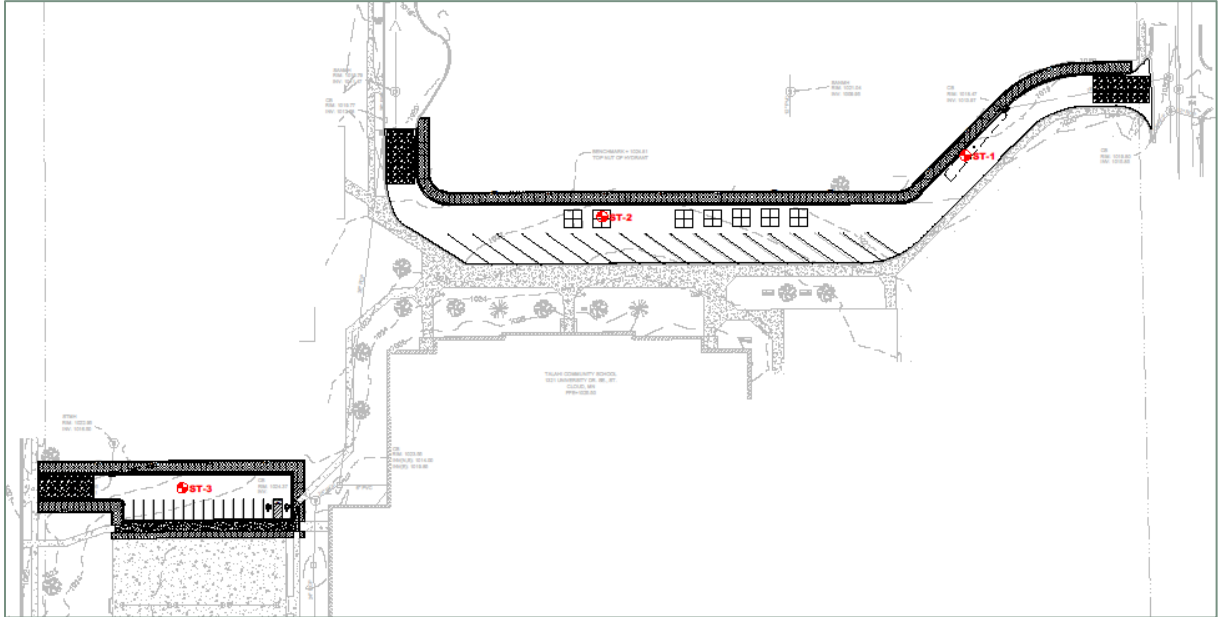
This Geotechnical Evaluation Report addresses design and reconstruction for portions of the parking lots at Talahi Community School and Kennedy Community School in St. Cloud and St. Joseph, Minnesota. The projects will include the following:

- Talahi Community School - reconstructing the bus drive on the north side of the school and the parking lot on the west side of the school. The reconstruction will likely consist of reclaiming the existing pavement section, grading and new bituminous pavement. Stormwater management improvements are planned in the below a portion of the bus drive area. New concrete sidewalks and curb and gutter will be included.
- Kennedy Community School - reconstructing the existing bus drive on the north side of the school, the parking lot on the west side of the school, and parking lot east of the bus turnaround. The reconstruction will likely consist of reclaiming the existing pavement section, grading and new bituminous pavement.

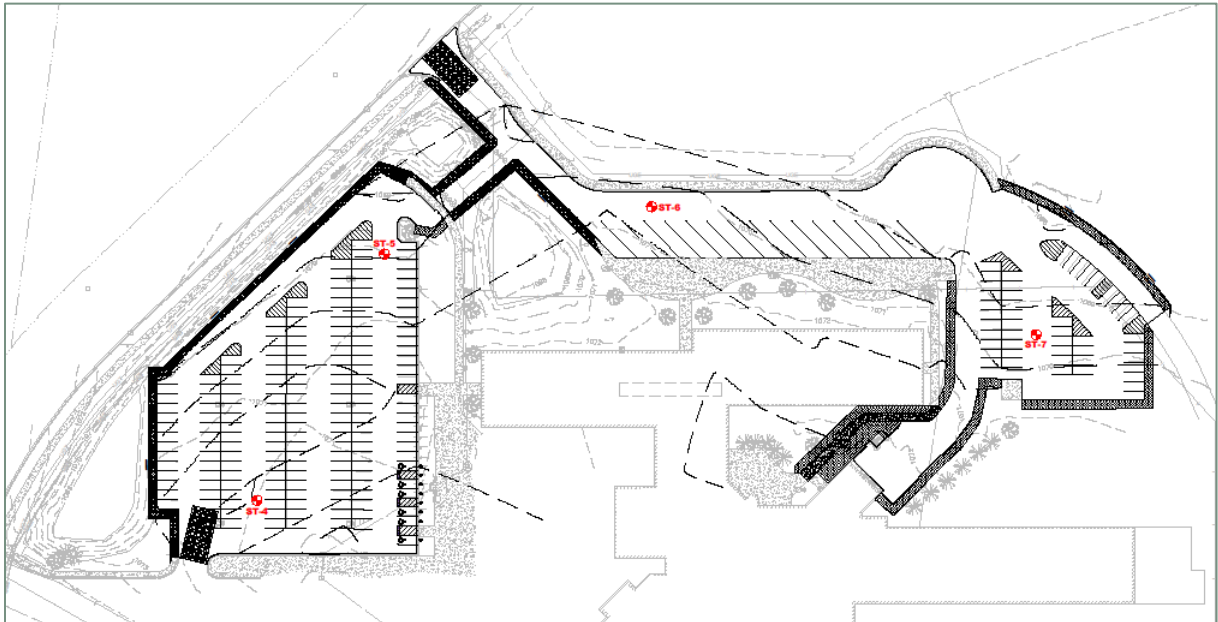
The pavements will be bituminous-surfaced. We have assumed the light duty pavement areas will have traffic loads less than 75,000 ESALs (Equivalent Single Axle Loads), and that heavy duty areas will have loads less than 150,000 ESALs.

The figures below show the site plans for the parking lots and the desired boring locations.

**Figure 1. Talahi Community School Site Plan**



**Figure 2. Kennedy Community School Site Plan**



Figures provided by Design Tree Engineering, Inc.

## **A.2. Purpose**

The purpose of our geotechnical evaluation is to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for the design and construction of pavements and storm water improvements.

## **A.3. Background Information and Reference Documents**

We reviewed the following information:

- Site plans prepared by Design Tree Engineering, Inc.
- A Geologic Map of Minnesota, prepared by Howard C. Hobbs and Joseph E. Goebel, 1982.
- Communications with Mr. Jeremy Anderson, Design Tree Engineering, Inc. regarding the scope of the project.
- Aerial photographs of the project areas using Google Earth®.

We have described our understanding of the proposed construction and site to the extent others reported it to us. Depending on the extent of available information, we may have made assumptions based on our experience with similar projects. If we have not correctly recorded or interpreted the project details, the project team should notify us. New or changed information could require additional evaluation, analyses and/or recommendations.

## **A.4. Scope of Services**

We performed our scope of services for the project in accordance with our Proposal QTB132533 to Mr. Anderson, dated January 19, 2021. The following list describes the geotechnical tasks completed in accordance with our authorized scope of services.

- Reviewing the background information and reference documents previously cited.
- Staking and clearing the exploration location of underground utilities. Design Tree Engineering selected and we staked the new exploration locations. We acquired the surface elevations and locations with GPS technology using the State of Minnesota's permanent GPS base station network. The Soil Boring Location Sketch included in the Appendix shows the approximate locations of the borings.

- Performing 7 standard penetration test (SPT) borings, denoted as ST-1 to ST-7, to nominal depths of 10 feet below grade.
- Performing laboratory testing on select samples to aid in soil classification and engineering analysis.
- Preparing this report containing a boring location sketches, logs of soil borings, a summary of the soils encountered, results of laboratory tests, and recommendations for pavement subgrade preparation and the design of pavements, and estimated infiltration rates for the stormwater pond.

Our scope of services did not include environmental services or testing, and we did not train the personnel performing this evaluation to provide environmental services or testing. We can provide these services or testing at your request.

## **B. Results**

### **B.1. Geologic Overview**

We based the geologic origins used in this report on the soil types, laboratory testing, and available common knowledge of the geological history of the site. Because of the complex depositional history, geologic origins can be difficult to ascertain. We did not perform a detailed investigation of the geologic history for the site.

### **B.2. Boring Results**

Tables 1 and 2 provide a summary of the soil boring results, in the general order we encountered the strata. Please refer to the Log of Boring sheets in the Appendix for additional details. The Descriptive Terminology sheets in the Appendix include definitions of abbreviations used in Tables 1 and 2.

**Table 1. Talahi Community School Subsurface Profile Summary (Borings ST-1 through ST-3)\***

Strata	Soil Type - ASTM Classification	Range of Penetration Resistances	Commentary and Details
Pavement section	---	---	<ul style="list-style-type: none"> <li>Overall thickness ranges from 13 to 16 inches.</li> <li>Bituminous thickness was 5 inches.</li> <li>Apparent aggregate base is 8 to 11 inches.</li> </ul>
Fill	SM, SC	---	<ul style="list-style-type: none"> <li>Encountered below the pavement sections in Borings ST-1 and ST-3.</li> <li>Moisture condition generally frozen (moist when thawed).</li> <li>Observed to depths ranging from 1 1/2 to 3 feet.</li> </ul>
Glacial deposits	SP, SP-SM, SM	3 to 32 BPF	<ul style="list-style-type: none"> <li>The sands from 2 to 4 feet were frozen when sampled. The blows at these depths in each boring were influenced by frost.</li> <li>General penetration resistance of 10 to 20 BPF in the unfrozen soils indicating that the glacial sand soils were medium dense.</li> <li>Variable amounts of gravel.</li> <li>Moisture condition generally frozen (moist when thawed) to moist.</li> <li>Silty sand encountered in Boring ST-1 at a depth of 7 feet.</li> </ul>

**Table 2. Kennedy Community School Subsurface Profile Summary (Borings ST-4 through ST-7)\***

Strata	Soil Type - ASTM Classification	Range of Penetration Resistances	Commentary and Details
Pavement section	---	---	<ul style="list-style-type: none"> <li>Overall thickness ranges from 12 to 15 inches.</li> <li>Bituminous thickness is 4 to 5 inches.</li> <li>Apparent aggregate base is 8 to 10 inches.</li> </ul>
Fill	SP-SM, SM	---	<ul style="list-style-type: none"> <li>Moisture condition generally frozen (moist when thawed).</li> <li>Observed to a depth of 3 feet at each boring location.</li> </ul>
Glacial deposits	SP, SP-SC, SM	11 to 49 BPF	<ul style="list-style-type: none"> <li>The sands from 2 to 4 feet were frozen when sampled. The blows at these depths in each boring were influenced by frost.</li> <li>General penetration resistance of 15 to 25 BPF indicating that the glacial sand soils were medium dense.</li> <li>Variable amounts of gravel.</li> <li>Moisture condition generally frozen (moist when thawed) to moist.</li> </ul>

\*Abbreviations defined in the attached Descriptive Terminology sheets.

We did not perform gradation analysis on the apparent aggregate base material encountered as part of the pavement section, in accordance with our scope of work. Therefore, we cannot conclusively determine if the encountered material satisfies a particular specification.

For simplicity in this report, we define existing fill to mean existing, uncontrolled or undocumented fill.

### **B.3. Groundwater**

We did not observe groundwater while advancing our borings at the Kennedy Community School site. Therefore, it appears that groundwater is below the depths explored. Project planning should anticipate seasonal and annual fluctuations of groundwater.

Table 3 summarizes the depths where we observed groundwater at the Talahi Community School site; the attached Log of Boring sheets in the Appendix also include this information and additional details.

**Table 3. Groundwater Summary**

<b>Location</b>	<b>Surface Elevation</b>	<b>Measured or Estimated Depth to Groundwater (ft)</b>	<b>Corresponding Groundwater Elevation (ft)</b>
ST-1	1019.3	7	1012
ST-2	1022.4	9 1/2	1013
ST-3	1023.5	10	1013 1/2

Project planning should anticipate seasonal and annual fluctuations of groundwater.

### **B.4. Laboratory Test Results**

The boring logs show the results of laboratory testing we performed, next to the tested sample depth. Table 4 also presents the results of our laboratory tests.

**Table 4. Laboratory Classification Test Results**

Location	Sample Depth (ft)	Classification	Moisture Content (w, %)	Percent Passing a #200 Sieve
ST-1	2 – 3	SP-SM	4	10
ST-1	4 – 5	SP-SM	10	6
ST-2	1 – 2	SP-SM	4	10
ST-3	2 – 3	SC	17	13
ST-4	2 – 3	SP-SM	6	11
ST-5	4 – 5	SM	8	15
ST-7	1 – 2	SM	11	16

## **C. Recommendations**

### **C.1. Design and Construction Discussion**

The existing bituminous pavements at both school sites appear suitable for reconstruction by the process of reclaiming the existing pavement section and repaving. The subgrade soils will consist primarily of silty sands, poorly graded sands with silt, and poorly graded sands, which are generally considered good to excellent subgrade soils and suitable for pavements. Boring ST-3 encountered clayey and very loose soils beneath the pavement section that may require soil correction as described in the section below.

Based on the Boring ST-1 performed in the bus drive area north of Talahi Community School, the anticipated soils at the stormwater management system will likely will consist of poorly graded sand with silt and silty sand soils. The silty sand is medium dense to dense, and may have a slower than typical infiltration rate for these soils.



## **C.2. Site Grading and Subgrade Preparation**

### **C.2.a. Pavement Subgrade Preparation**

As previously noted, the subgrade soils encountered in the borings primarily consisted of silty sand, poorly graded sand with silt, and poorly graded sand. Laboratory tests indicated the fill soils contain silt and clay amounts of about 11 to 16 percent and the poorly graded sand with silt and silty sand soils contain silty and clay amounts of about 6 to 15 percent.

As previously stated, Boring ST-3 encountered clayey and very loose soils beneath the pavement section. It will be important to observe this area during reclaiming and proofrolling to look for potential weak areas. Areas where poor soils are encountered should be subcut and replaced with soil or crushed aggregate.

### **C.2.b. Reclaim (Leave In-Place) and Paving**

Assuming an average bituminous thickness of 5 inches, based on the measurements within borings at each school site, a design reclamation depth of 10 inches would achieve the approximately 50-50 blend of recycled bituminous and underlying soils (typically aggregate base) that is desirable for reclaimed materials. The existing pavement sections appear to have suitable thicknesses.

Regardless of the design reclaim depth chosen, adjustments will be necessary in the field by the reclamation contractor to account for variation in material depths and conditions. We recommend test pits during construction to confirm aggregate base thickness.

### **C.2.c. Pavement Subgrade Proofroll**

Prior to the placement of bituminous, we recommend proofrolling the reclaimed materials with a fully loaded tandem-axle truck. We also recommend having a geotechnical representative observe the proofroll. Areas that fail the proofroll likely indicate soft or weak areas that will require additional soil correction work to support pavements.

The contractor should correct areas that display excessive yielding or rutting during the proofroll, as determined by the geotechnical representative. Possible options for subgrade correction include moisture conditioning and recompaction, subcutting and replacement with soil or crushed aggregate, chemical stabilization and/or geotextiles.

### **C.3. Pavements**

#### **C.3.a. Design R Value**

Our scope of services for this project did not include laboratory tests on subgrade soils to determine an R-value for pavement design. Based on our experience with similar silty sand soils anticipated at the pavement subgrade elevation, we recommend pavement design assume an R-value of 50.

#### **C.3.b. Proposed Pavement Section**

We recommend considering the following pavement section in Table 5 below. Other sections can be considered as well.

**Table 5. Proposed Pavement Section**

Layer	Light Duty Pavement	Heavy Duty Pavement
Bituminous thickness (in)	3 1/2	4
Reclaimed Bituminous / Aggregate Base thickness (in)	7	8

The above pavement design and discussion are based on a 20-year performance life. This is the amount of time before we anticipate the pavement will require reconstruction. This performance life assumes routine maintenance, such as seal coating and crack sealing. The actual pavement life will vary depending on variations in weather, traffic conditions and maintenance.

#### **C.3.c. Bituminous Pavement Materials**

Appropriate mix designs are critical to the performance of flexible pavements. We can provide recommendations for pavement material selection during final pavement design.

#### **C.3.d. Performance and Maintenance**

It is common to place the non-wear course of bituminous and then delay placement of wear course. For this situation, we recommend evaluating if the reduced pavement section will have sufficient structure to support construction traffic.

Many conditions affect the overall performance of the exterior slabs and pavements. Some of these conditions include the environment, loading conditions and the level of ongoing maintenance. With regard to bituminous pavements in particular, it is common to have thermal cracking develop within the

first few years of placement, and continue throughout the life of the pavement. We recommend developing a regular maintenance plan for filling cracks in exterior slabs and pavements to lessen the potential impacts for cold weather distress due to frost heave or warm weather distress due to wetting and softening of the subgrade.

#### C.4. Stormwater

The estimated infiltration rates for the soils we encountered in our soil borings, as listed in Table 6. These infiltration rates represent the long-term infiltration capacity of a practice and not the capacity of the soils in their natural state. Field testing, such as with a double-ring infiltrometer (ASTM D3385), may justify the use of higher infiltration rates. However, we recommend adjusting field test rates by the appropriate correction factor, as provided for in the Minnesota Stormwater Manual or as allowed by the local watershed. We recommend consulting the Minnesota Stormwater Manual for stormwater design. It should also be noted, the silty sand in Boring ST-1 was medium dense to dense, which can cause lower infiltration rates than noted below. Field testing would be necessary to further evaluate this.

**Table 6. Estimated Design Infiltration Rates Based on Soil Classification**

Soil Type	Infiltration Rate * (inches/hour)
Gravels and gravelly sands	1.63
Sands with less than 12% fines, poorly graded or well graded sands	0.8
Silty sands, silty gravelly sands	0.45
Silts, very fine sands, silty or clayey fine sands	0.2
Clayey sands and clays	0.06

\* From Minnesota Stormwater Manual. Rates may differ at individual sites.

Fine-grained soils (silts and clays), topsoil or organic matter that mixes into or washes onto the soil will lower the permeability. The contractor should maintain and protect infiltration areas during construction. Furthermore, organic matter and silt washed into the system after construction can fill the soil pores and reduce permeability over time. Proper maintenance is important for long-term performance of infiltration systems.

This geotechnical evaluation does not constitute a review of site suitability for stormwater infiltration or evaluate the potential impacts, if any, from infiltration of large amounts of stormwater.

## **D. Procedures**

### **D.1. Penetration Test Borings**

We drilled the penetration test borings with a truck-mounted core and auger drill equipped with hollow-stem auger. We performed the borings in general accordance with ASTM D6151 taking penetration test samples continuously or at 2 1/2-foot intervals in general accordance to ASTM D1586. The boring logs show the actual sample intervals and corresponding depths.

### **D.2. Exploration Logs**

#### **D.2.a. Log of Boring Sheets**

The Appendix includes Log of Boring sheets for our penetration test borings. The logs identify and describe the penetrated geologic materials, and present the results of penetration resistance tests performed. The logs also present the results of laboratory tests performed on penetration test samples, and groundwater measurements.

We inferred strata boundaries from changes in the penetration test samples and the auger cuttings. Because we did not perform continuous sampling, the strata boundary depths are only approximate. The boundary depths likely vary away from the boring locations, and the boundaries themselves may occur as gradual rather than abrupt transitions.

#### **D.2.b. Geologic Origins**

We assigned geologic origins to the materials shown on the logs and referenced within this report, based on: (1) a review of the background information and reference documents cited above, (2) visual classification of the various geologic material samples retrieved during the course of our subsurface exploration, (3) penetration resistance testing performed for the project, (4) laboratory test results, and (5) available common knowledge of the geologic processes and environments that have impacted the site and surrounding area in the past.

### **D.3. Material Classification and Testing**

#### **D.3.a. Visual and Manual Classification**

We visually and manually classified the geologic materials encountered based on ASTM D2488. When we performed laboratory classification tests, we used the results to classify the geologic materials in

accordance with ASTM D2487. The Appendix includes a chart explaining the classification system we used.

#### **D.3.b. Laboratory Testing**

The exploration logs in the Appendix note most of the results of the laboratory tests performed on geologic material samples. The remaining laboratory test results follow the exploration logs. We performed the tests in general accordance with ASTM or AASHTO procedures.

#### **D.4. Groundwater Measurements**

The drillers checked for groundwater while advancing the penetration test borings, and again after auger withdrawal. We then filled the boreholes or allowed them to remain open for an extended period of observation, as noted on the boring logs.

### **E. Qualifications**

#### **E.1. Variations in Subsurface Conditions**

##### **E.1.a. Material Strata**

We developed our evaluation, analyses and recommendations from a limited amount of site and subsurface information. It is not standard engineering practice to retrieve material samples from exploration locations continuously with depth. Therefore, we must infer strata boundaries and thicknesses to some extent. Strata boundaries may also be gradual transitions, and project planning should expect the strata to vary in depth, elevation and thickness, away from the exploration locations.

Variations in subsurface conditions present between exploration locations may not be revealed until performing additional exploration work, or starting construction. If future activity for this project reveals any such variations, you should notify us so that we may reevaluate our recommendations. Such variations could increase construction costs, and we recommend including a contingency to accommodate them.

##### **E.1.b. Groundwater Levels**

We made groundwater measurements under the conditions reported herein and shown on the exploration logs, and interpreted in the text of this report. Note that the observation periods were

relatively short, and project planning can expect groundwater levels to fluctuate in response to rainfall, flooding, irrigation, seasonal freezing and thawing, surface drainage modifications and other seasonal and annual factors.

## **E.2. Continuity of Professional Responsibility**

### **E.2.a. Plan Review**

We based this report on a limited amount of information, and we made a number of assumptions to help us develop our recommendations. We should be retained to review the geotechnical aspects of the designs and specifications. This review will allow us to evaluate whether we anticipated the design correctly, if any design changes affect the validity of our recommendations, and if the design and specifications correctly interpret and implement our recommendations.

### **E.2.b. Construction Observations and Testing**

We recommend retaining us to perform the required observations and testing during construction as part of the ongoing geotechnical evaluation. This will allow us to correlate the subsurface conditions exposed during construction with those encountered by the borings and provide professional continuity from the design phase to the construction phase. If we do not perform observations and testing during construction, it becomes the responsibility of others to validate the assumption made during the preparation of this report and to accept the construction-related geotechnical engineer-of-record responsibilities.

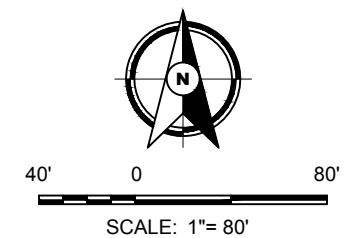
## **E.3. Use of Report**

This report is for the exclusive use of the addressed parties. Without written approval, we assume no responsibility to other parties regarding this report. Our evaluation, analyses and recommendations may not be appropriate for other parties or projects.

## **E.4. Standard of Care**

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

## **Appendix**

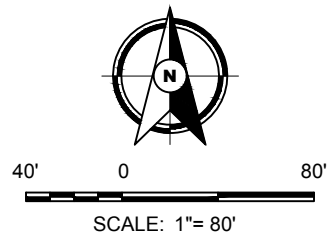
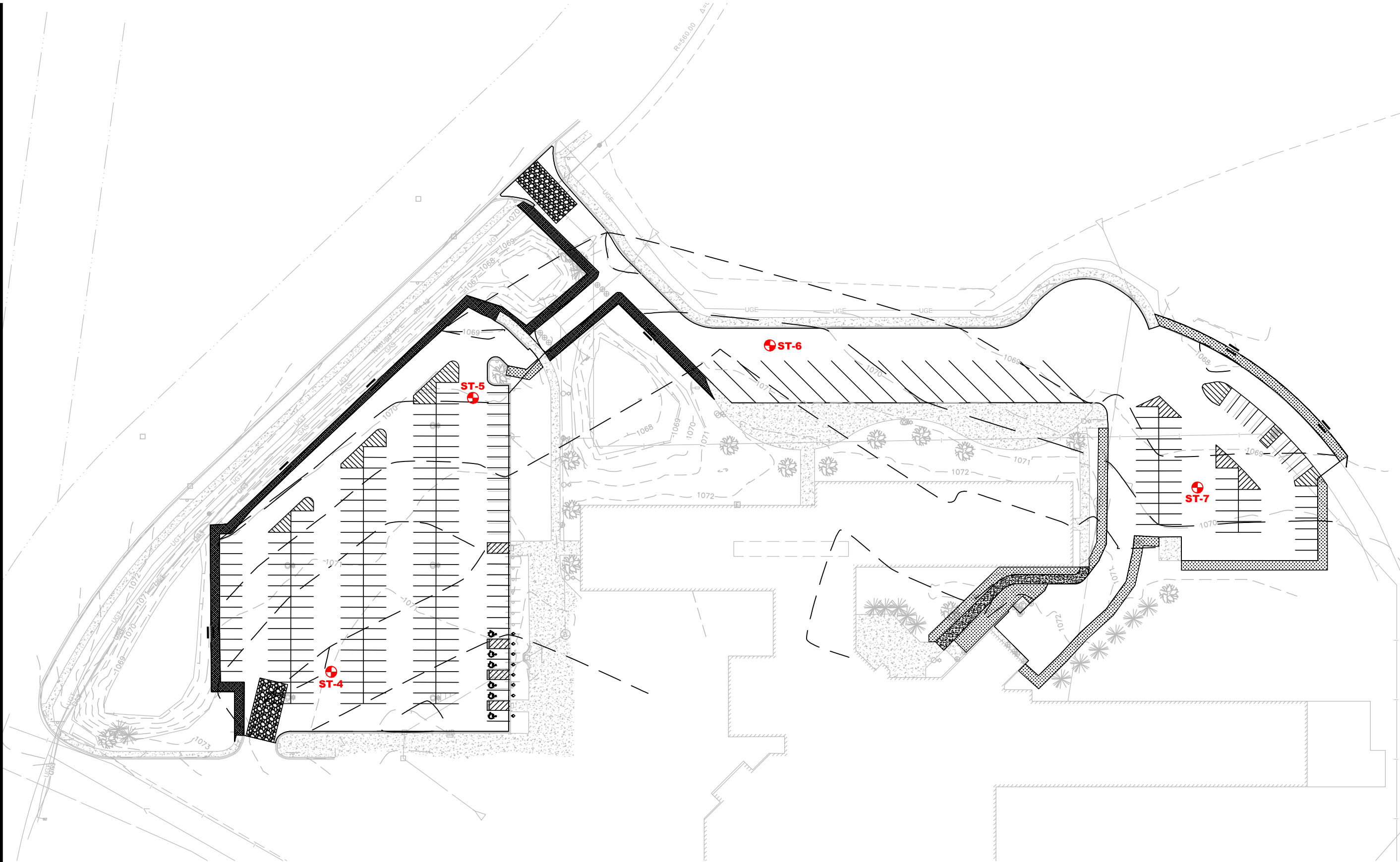




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**DENOTES APPROXIMATE LOCATION OF  
STANDARD PENETRATION TEST BORING**



**BRAUN  
INTERTEC**  
The Science You Build On.

11001 Hampshire Avenue S  
Minneapolis, MN 55438  
952.995.2000  
braunintertec.com

Drawing Information

Project No:  
B2100554

Drawing No:  
B2100554-K

Drawn By: JAG  
Date Drawn: 2/9/21  
Checked By: CA  
Last Modified: 2/9/21

Project Information

Geotechnical Evaluation

Kennedy Community  
School Site  
Improvements

St. Cloud, Minnesota

**Soil Boring  
Location Sketch**

See Descriptive Terminology sheet for explanation of abbreviations

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Talahi Community School</b> <b>Saint Cloud, Minnesota</b>						<b>BORING:</b>		<b>ST-1</b>	
						LOCATION: See attached sketch			
						NORTHING: 309176		EASTING: 436187	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21		END DATE: 02/02/21			
SURFACE ELEVATION: 1019.3 ft		RIG: 7516B	METHOD: 3 1/4" HSA	SURFACING: Bituminous		WEATHER: Cloudy, 25 degrees			
Elev./ Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks		
1018.0	 7.0	BITUMINOUS, 5 inches		AU		4	P200=10%		
0.4		APPARENT AGGREGATE BASE, 11 inches							
1018.0		FILL: SILTY SAND (SM), fine to medium-grained, dark brown, frozen (moist when thawed)							
1.3		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, with Gravel, brown, frozen (moist when thawed), medium dense (GLACIAL OUTWASH)							
1017.3									
2.0	5	4-9-11-16 (20) 16"	10	P200=6%					
1012.3	 7.0	SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist, dense to medium dense (GLACIAL TILL)		14-16-16 (32) 0"			Water observed at 7.0 feet with 7.0 feet of tooling in the ground while drilling.  Water not observed with 9.5 feet of tooling in the ground at end of drilling.		
7.0		10	6-10-17 (27) 16"						
1008.3									
11.0		END OF BORING							
		Boring then backfilled with auger cuttings							
			15						
			20						
			25						
			30						

See Descriptive Terminology sheet for explanation of abbreviations

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Talahi Community School</b> <b>Saint Cloud, Minnesota</b>					BORING: <b>ST-2</b>		
					LOCATION: See attached sketch		
					NORTHING: 309121	EASTING: 435860	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21		END DATE: 02/02/21	
SURFACE ELEVATION: 1022.4 ft		RIG: 7516B	METHOD: 3 1/4" HSA		SURFACING: Bituminous		WEATHER: Cloudy, 25 degrees
Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks
1022.0		BITUMINOUS, 5 inches					
0.4		APPARENT AGGREGATE BASE, 10 inches					
1021.1		POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel, dark brown, frozen (moist when thawed), medium dense (GLACIAL OUTWASH)		AU		4	P200=10%
1.3				4-14-10-10 (24) 20"			
1018.4		POORLY GRADED SAND (SP), fine to coarse-grained, with Gravel, brown, moist to wet, medium dense (GLACIAL OUTWASH)					
4.0			5				
				3-5-6 (11) 11"			
				3-6-7 (13) 11"			
1011.4		END OF BORING	10				Water observed at 9.5 feet with 9.5 feet of tooling in the ground while drilling.
11.0		Boring then backfilled with auger cuttings					Water not observed with 9.5 feet of tooling in the ground at end of drilling.
			15				
			20				
			25				
			30				

See Descriptive Terminology sheet for explanation of abbreviations

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Talahi Community School</b> <b>Saint Cloud, Minnesota</b>					BORING: <b>ST-3</b>		
					LOCATION: See attached sketch		
					NORTHING: 308877	EASTING: 435482	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21	END DATE: 02/02/21		
SURFACE ELEVATION: 1023.5 ft		RIG: 7516B	METHOD: 3 1/4" HSA	SURFACING: Bituminous	WEATHER: Cloudy, 25 degrees		
Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks
1023.1		BITUMINOUS, 5 inches					
0.4		APPARENT AGGREGATE BASE, 8 inches					
1022.4		FILL: CLAYEY SAND (SC), fine-grained, dark brown, frozen (moist when thawed)		AU		17	P200=13%
1.1							
1020.5		POORLY GRADED SAND with SILT (SP-SM), fine-grained, brown, moist, very loose (GLACIAL OUTWASH)		1-1-2-3 (3) 18"			
3.0			5				
1017.5		POORLY GRADED SAND (SP), fine to coarse-grained, with Gravel, brown, moist to wet, loose to medium dense (GLACIAL OUTWASH)		3-6-9 (15) 6"			
6.0							
1012.5			10	3-4-5 (9) 8"			
11.0		END OF BORING					Water observed at 10.0 feet with 9.5 feet of tooling in the ground while drilling.
		Boring then backfilled with auger cuttings					Water not observed with 9.5 feet of tooling in the ground at end of drilling.
			15				
			20				
			25				
			30				

B2100554 Braun Intertec Corporation Print Date:02/11/2021 ST-4 page 1 of 1

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Kennedy Community School</b> <b>Saint Cloud, Minnesota</b>					BORING: <b>ST-5</b>		
					LOCATION: See attached sketch		
					NORTHING: 195994	EASTING: 716174	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21	END DATE: 02/02/21		
SURFACE ELEVATION: 1070.1 ft		RIG: 7516B	METHOD: 3 1/4" HSA	SURFACING: Bituminous	WEATHER: Cloudy, 25 degrees		

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks
1069.7		BITUMINOUS, 5 inches					
0.4		APPARENT AGGREGATE BASE, 8 inches					
1069.0		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, trace Gravel, dark brown, frozen (moist when thawed)		AU			
1.1				7-14-17-15			
1067.1		SILTY SAND (SM), fine to medium-grained, trace Gravel, brown, moist, medium dense (GLACIAL TILL)		(31)		8	P200=15%
3.0			5	18"			
1064.1		POORLY GRADED SAND (SP), fine to medium-grained, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		3-7-8			
6.0				(15)			
				13"			
1059.1			10	3-8-9			
11.0				(17)			
		END OF BORING		10"			Water not observed while drilling.
		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Kennedy Community School</b> <b>Saint Cloud, Minnesota</b>					BORING: <b>ST-6</b>		
					LOCATION: See attached sketch		
					NORTHING: 196038	EASTING: 716424	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21		END DATE: 02/02/21	
SURFACE ELEVATION: 1070.5 ft		RIG: 7516B	METHOD: 3 1/4" HSA		SURFACING: Bituminous		WEATHER: Cloudy, 25 degrees

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks
1070.1		BITUMINOUS, 5 inches					
0.4		APPARENT AGGREGATE BASE, 8 inches					
1069.4		FILL: POORLY GRADED SAND with SILT (SP-SM), fine to medium-grained, with Gravel, dark brown, frozen (moist when thawed)		AU			
1.1							
1067.5		POORLY GRADED SAND (SP), fine to medium-grained, trace Gravel, brown, moist, dense to medium dense (GLACIAL OUTWASH)		7-32-17-17 (49) 14"			
3.0			5				
				5-7-8 (15) 10"			
				4-8-9 (17) 3"			
1059.5		END OF BORING	10				Gravel pushed in tip of spoon
11.0		Boring then backfilled with auger cuttings					Water not observed while drilling.
			15				
			20				
			25				
			30				

<b>Project Number B2100554</b> <b>Geotechnical Evaluation</b> <b>Kennedy Community School</b> <b>Saint Cloud, Minnesota</b>					BORING: <b>ST-7</b>		
					LOCATION: See attached sketch		
					NORTHING: 195919	EASTING: 716783	
DRILLER: R. Hansen		LOGGED BY: C. Anderson		START DATE: 02/02/21		END DATE: 02/02/21	
SURFACE ELEVATION: 1069.5 ft		RIG: 7516B	METHOD: 3 1/4" HSA		SURFACING: Bituminous		WEATHER: Cloudy, 25 degrees

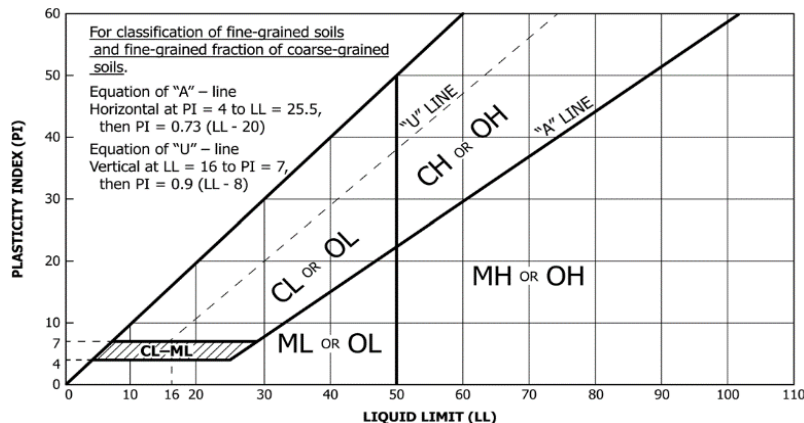
  

Elev./Depth ft	Water Level	Description of Materials (Soil-ASTM D2488 or 2487; Rock-USACE EM 1110-1-2908)	Sample	Blows (N-Value) Recovery	q <sub>p</sub> tsf	MC %	Tests or Remarks
1069.2		BITUMINOUS, 4 inches					
0.3		APPARENT AGGREGATE BASE, 8 inches					
1068.5		FILL: SILTY SAND (SM), fine to medium-grained, trace Gravel, dark brown, frozen (moist when thawed)		AU		11	P200=16%
1.0							
1066.5		POORLY GRADED SAND (SP), fine to medium-grained, with Gravel, brown, moist, medium dense (GLACIAL OUTWASH)		2-5-6-5 (11) 13"			
3.0			5				
				7-11-18 (29) 8"			
				6-11-13 (24) 12"			
1058.5		END OF BORING	10				Water not observed while drilling.
11.0		Boring then backfilled with auger cuttings					
			15				
			20				
			25				
			30				



Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests <sup>A</sup>				Group Symbol	Soil Classification
				Group Symbol	Group Name <sup>B</sup>
Coarse-grained Soils (more than 50% retained on No. 200 sieve)	Gravels (More than 50% of coarse fraction retained on No. 4 sieve)	Clean Gravels (Less than 5% fines <sup>C</sup> )	$C_u \geq 4$ and $1 \leq C_c \leq 3^D$	GW	Well-graded gravel <sup>E</sup>
			$C_u < 4$ and/or ( $C_c < 1$ or $C_c > 3$ ) <sup>D</sup>	GP	Poorly graded gravel <sup>E</sup>
		Gravels with Fines (More than 12% fines <sup>C</sup> )	Fines classify as ML or MH	GM	Silty gravel <sup>EFG</sup>
			Fines Classify as CL or CH	GC	Clayey gravel <sup>EFG</sup>
	Sands (50% or more coarse fraction passes No. 4 sieve)	Clean Sands (Less than 5% fines <sup>H</sup> )	$C_u \geq 6$ and $1 \leq C_c \leq 3^D$	SW	Well-graded sand <sup>I</sup>
			$C_u < 6$ and/or ( $C_c < 1$ or $C_c > 3$ ) <sup>D</sup>	SP	Poorly graded sand <sup>I</sup>
		Sands with Fines (More than 12% fines <sup>H</sup> )	Fines classify as ML or MH	SM	Silty sand <sup>FGI</sup>
			Fines classify as CL or CH	SC	Clayey sand <sup>FGI</sup>
Fine-grained Soils (50% or more passes the No. 200 sieve)	Silts and Clays (Liquid limit less than 50)	Inorganic	PI > 7 and plots on or above "A" line <sup>J</sup>	CL	Lean clay <sup>KLM</sup>
			PI < 4 or plots below "A" line <sup>J</sup>	ML	Silt <sup>KLM</sup>
		Organic	Liquid Limit – oven dried Liquid Limit – not dried <0.75	OL	Organic clay <sup>KLMN</sup> Organic silt <sup>KLMQ</sup>
			PI plots on or above "A" line	CH	Fat clay <sup>KLM</sup>
	Silts and Clays (Liquid limit 50 or more)	Inorganic	PI plots below "A" line	MH	Elastic silt <sup>KLM</sup>
			Liquid Limit – oven dried Liquid Limit – not dried <0.75	OH	Organic clay <sup>KLMP</sup> Organic silt <sup>KLMQ</sup>
		Organic			
Highly Organic Soils		Primarily organic matter, dark in color, and organic odor		PT	Peat

- A. Based on the material passing the 3-inch (75-mm) sieve.  
B. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.  
C. Gravels with 5 to 12% fines require dual symbols:  
GW-GM well-graded gravel with silt  
GW-GC well-graded gravel with clay  
GP-GM poorly graded gravel with silt  
GP-GC poorly graded gravel with clay  
D.  $C_u = D_{60} / D_{10}$   $C_c = (D_{30})^2 / (D_{10} \times D_{60})$   
E. If soil contains  $\geq 15\%$  sand, add "with sand" to group name.  
F. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.  
G. If fines are organic, add "with organic fines" to group name.  
H. Sands with 5 to 12% fines require dual symbols:  
SW-SM well-graded sand with silt  
SW-SC well-graded sand with clay  
SP-SM poorly graded sand with silt  
SP-SC poorly graded sand with clay  
I. If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.  
J. If Atterberg limits plot in hatched area, soil is CL-ML, silty clay.  
K. If soil contains 15 to < 30% plus No. 200, add "with sand" or "with gravel", whichever is predominant.  
L. If soil contains  $\geq 30\%$  plus No. 200, predominantly sand, add "sandy" to group name.  
M. If soil contains  $\geq 30\%$  plus No. 200 predominantly gravel, add "gravelly" to group name.  
N. PI  $\geq 4$  and plots on or above "A" line.  
O. PI < 4 or plots below "A" line.  
P. PI plots on or above "A" line.  
Q. PI plots below "A" line.



DD Dry density, pcf  
WD Wet density, pcf  
P200 % Passing #200 sieve

**Laboratory Tests**  
OC Organic content, %  
q<sub>p</sub> Pocket penetrometer strength, tsf  
MC Moisture content, %  
q<sub>u</sub> Unconfined compression test, tsf

LL Liquid limit  
PL Plastic limit  
PI Plasticity index

## Particle Size Identification

Boulders..... over 12"  
Cobbles..... 3" to 12"  
Gravel  
Coarse..... 3/4" to 3" (19.00 mm to 75.00 mm)  
Fine..... No. 4 to 3/4" (4.75 mm to 19.00 mm)  
Sand  
Coarse..... No. 10 to No. 4 (2.00 mm to 4.75 mm)  
Medium..... No. 40 to No. 10 (0.425 mm to 2.00 mm)  
Fine..... No. 200 to No. 40 (0.075 mm to 0.425 mm)  
Silt..... No. 200 (0.075 mm) to .005 mm  
Clay..... < .005 mm

## Relative Proportions<sup>L M</sup>

trace..... 0 to 5%  
little..... 6 to 14%  
with.....  $\geq 15\%$

## Inclusion Thicknesses

lens..... 0 to 1/8"  
seam..... 1/8" to 1"  
layer..... over 1"

## Apparent Relative Density of Cohesionless Soils

Very loose ..... 0 to 4 BPF  
Loose ..... 5 to 10 BPF  
Medium dense..... 11 to 30 BPF  
Dense..... 31 to 50 BPF  
Very dense..... over 50 BPF

## Consistency of Cohesive Soils Blows Per Foot Approximate Unconfined Compressive Strength

Very soft..... 0 to 1 BPF..... < 0.25 tsf  
Soft..... 2 to 4 BPF..... 0.25 to 0.5 tsf  
Medium..... 5 to 8 BPF ..... 0.5 to 1 tsf  
Stiff..... 9 to 15 BPF..... 1 to 2 tsf  
Very Stiff..... 16 to 30 BPF..... 2 to 4 tsf  
Hard..... over 30 BPF..... > 4 tsf

## Moisture Content:

**Dry:** Absence of moisture, dusty, dry to the touch.  
**Moist:** Damp but no visible water.  
**Wet:** Visible free water, usually soil is below water table.

## Drilling Notes:




**Blows/N-value:** Blows indicate the driving resistance recorded for each 6-inch interval. The reported N-value is the blows per foot recorded by summing the second and third interval in accordance with the Standard Penetration Test, ASTM D1586.

**Partial Penetration:** If the sampler could not be driven through a full 6-inch interval, the number of blows for that partial penetration is shown as #/x" (i.e. 50/2"). The N-value is reported as "REF" indicating refusal.

**Recovery:** Indicates the inches of sample recovered from the sampled interval. For a standard penetration test, full recovery is 18", and is 24" for a thinwall/shelby tube sample.

**WOH:** Indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

**WOR:** Indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

**Water Level:** Indicates the water level measured by the drillers either while drilling ( , at the end of drilling ( , or at some time after drilling ( .

## APPENDIX B

### Storm Water Management Study

