

# PROJECT MANUAL

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## CITY OF LAKEVILLE RITTER FARM TRAILHEAD & DOWNTOWN LAKEVILLE GATEWAY PROJECT

FOR THE CITY OF LAKEVILLE  
DAKOTA COUNTY, MINNESOTA

MARCH 27, 2026

# CERTIFICATION

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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.

  
Taylor Olson, PE

Date: March 27, 2026

Lic. No. 57274

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## ADVERTISEMENT FOR BIDS

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### CITY OF LAKEVILLE RITTER FARM TRAILHEAD & DOWNTOWN LAKEVILLE GATEWAY PROJECT

**NOTICE IS HEREBY GIVEN** that sealed electronic bids will be received by the City of Lakeville at the office of the City Clerk until 10:30 a.m. CST, Friday, April 17, 2026, at the Lakeville City Hall, 20195 Holyoke Avenue, Lakeville, MN 55044, through the City of Lakeville's online electronic bid system (BidVAULT). At that time bids will be opened and posted publicly by representatives of the City of Lakeville. Bid results and tabulations may be viewed on the City of Lakeville's Public Dashboard at <https://mn-ci-lakeville.app.rtvision.com/oneoffice/public/bidding>. Said proposals for the furnishing of all labor and materials for the construction, complete in-place, of the following approximate quantities:

|       |     |   |
|-------|-----|---|
| 200   | SY  | Remove Bituminous Pavement                      |
| 1,250 | CY  | Aggregate Base (CV) Class 5                     |
| 460   | SY  | Type SP 9.5 Wearing Course Mix (2,B) 3.0" Thick |
| 480   | TON | Type SP 9.5 Wearing Course Mix (3,C)            |
| 600   | TON | Type SP 12.5 Non-Wearing Course Mix (3,C)       |
| 110   | LF  | 4" Solid PVC SDR 35                             |
| 710   | LF  | 4" HDPE Pipe Sewer – Directional Drilled        |
| 2     | EA  | Septic Tank                                     |
| 30    | LF  | 1.5" Type K Watermain                           |
| 1     | LS  | Shelter Structure                               |
| 1     | LS  | Drinking Fountain                               |
| 65    | EA  | Miscellaneous Landscaping Items                 |
| 60    | LF  | 15" RC Pipe Sewer Design 3006 Class V           |
| 15    | LF  | Construct Drainage Structure                    |
| 405   | SF  | Natural Stone Retaining Wall                    |
| 3,760 | SF  | 6" Concrete Pavement                            |
| 500   | LF  | Concrete Curb & Gutter                          |
| 200   | EA  | Miscellaneous Trees                             |

The bids must be submitted on the Proposal Forms provided in accordance with the Contract Documents, Plans, and Specifications dated March 27, 2026 as prepared by the City of Lakeville and WSB LLC, which are on file with the City Clerk of Lakeville.

The Plan Holder Data project files may be downloaded at <https://mn-ci-lakeville.app.rtvision.com/oneoffice/bidding> (Projects in Bidding). ONLY REGISTERED PLANHOLDERS WILL BE ALLOWED TO BID PROJECT. Bidders are responsible for all present and future downloads, including addendums and their attachments.

BIDS WILL ONLY BE ACCEPTED BY SUBMITTING AN ELECTRONIC BID USING BIDVAULT at <https://bidvault.mn.uccs.com> NO HARD COPY BIDS WILL BE ACCEPTED. Instructions on submitting a bid electronically can be found on the bidVAULT website. The cost to submit a bid is \$25 (plus online payment vendor convenience fee).

No bids will be considered unless accompanied by a certified check, or bid bond made payable to the City of Lakeville for five percent (5%) of the amount bid, to be forfeited as liquidated damages in the event that the bid be accepted and the bidder fail to enter promptly into a written contract and furnish the required bond.

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 of bids. The City of Lakeville reserves the right to reject any or all bids.

CONTRACTOR ACKNOWLEDGEMENTS:

- (1) Any prime contractor or subcontractor that does not meet the minimum criteria established for a “responsible contractor” as defined in Minn. Stat. § 16C.285, subd. 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 perform work on the Project.
- (2) Responsible contractors shall submit to the City a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in Minn. Stat. § 16C.285, subd. 3, at the time that it responds to this solicitation document.
- (3) A prime contractor shall submit to the City, upon request, copies of the signed verifications of compliance from all subcontractors.
- (4) A false statement under oath verifying compliance with any of the minimum criteria shall make the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction project and may result in termination of a contract awarded to a prime contractor or subcontractor that submits a false statement.

DATED: April 3, 2026

BY ORDER OF THE CITY COUNCIL

s/s Ann Orlofsky  
City Clerk  
Lakeville, MN

**PUBLISHED IN THE:** Lakeville Sun

April 3, 2026  
April 10, 2026

# INSTRUCTIONS TO BIDDERS

## 1. DEFINED TERMS

Terms used in these Instructions to Bidders which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

## 2. COPIES OF BIDDING DOCUMENTS

- 2.1 Complete sets of the Contract Documents in the number and for the deposit sum, if any, stated in the Advertisement for Bid may be obtained from the Engineer.
- 2.2 Complete sets of Contract Documents, including electronic/ digital versions thereof when available, must be used in preparing Bids; neither the Owner nor the Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- 2.3 The Owner and the Engineer, in making copies of Contract Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.
- 2.4 When the advertisement indicates that such information is available, the Owner and Engineer will, upon request, provide the Bidder with electronic/digital versions of the entire set of Contract Documents. The terms of use of such electronic/digital versions shall be as set forth in the Contract Documents (Electronic/Digital Documents). It is the responsibility of the Bidder to provide any and all means (including software and data communication/transmission systems of adequate capacity) for receipt and use of electronic/digital documents and to assure that the Bidder receives the documents in a timely and complete form. The Bidder may not re-transmit originals or copies of the electronic/digital versions of the Contract Documents to any other party.

## 3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 3.1 It is the responsibility of each Bidder before submitting a Bid to:
  - (a) Examine and carefully study the Contract Documents, including any Addenda and the other related data thoroughly.
  - (b) Visit the sites to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work.
  - (c) Consider Federal, State, and local laws and regulations that may affect cost, progress, performance or furnishing of the Work.

- (d) Become aware of the general nature of the work to be performed by the Owner and others at the site that relates to the Work as indicated in the Contract Documents
  - (e) Study and carefully correlate the information known to the Bidder, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents, and all additional examinations, tests, studies and data with the Contract Documents
  - (f) Promptly notify the Engineer of all conflicts, errors, or discrepancies in the Contract Documents.
- 3.2 Information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site is based upon information and data furnished to the Owner and the Engineer by owners of such underground facilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Special Conditions.
- 3.3 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, underground facilities and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in the General Conditions.
- 3.4 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 3.5 On request in advance, the Owner will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.
- 3.6 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 3, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents, and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are

sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

#### **4. SITE AND ADDITIONAL AREAS**

4.1 The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by the Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the Owner unless otherwise provided in the Contract Documents.

#### **5. INTERPRETATIONS AND ADDENDA**

- 5.1 All questions about the meaning or intent of the Contract Documents are to be directed to the Engineer. Interpretations or clarifications considered necessary by the Engineer in response to such questions will be issued by Addenda faxed, mailed or delivered to all parties recorded by the Engineer as having received the Contract Documents. Questions received less than two (2) days prior to the date of opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 5.2 Addenda may also be issued to modify the Contract Documents as deemed advisable by the Owner or Engineer. Such Addenda will be binding on all parties as part of the Contract Documents.

#### **6. BID SECURITY**

- 6.1 Each Bid must be accompanied by security made payable to the Owner in an amount of five (5) percent of the Bidder's maximum Bid price and in the form of a certified or bank check or a bond issued by a surety. Attorneys-in-fact who sign the bid bond must file with the bond a certified and effective dated copy of their power of attorney.
- 6.2 The Bid Security can be submitted electronically if you use Surety2000 or InSure Vision SurePath. If you do not use Surety 2000 or InSure Vision SurePath, your paper bid bond must be received in (or a copy emailed to) the City Engineer's office prior to the bid opening time and date. If emailed, it must be emailed to [bidding@lakevillemn.gov](mailto:bidding@lakevillemn.gov) and your original bid security (bid bond or certified check) with original signatures must be submitted to the City Engineer's office within five (5) days after bid opening.

6.3 The Bid security of the low Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid security will be returned. If the low Bidder fails to execute and deliver the Agreement and furnish the required contract security within ten (10) days after the Notice of Award, the Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited as liquidated damages. The Bid security of the three (3) lowest Bidders may be retained by the Owner for a period not to exceed ninety (90) days after the Bid opening. Bid security of other bidders will be returned within fourteen (14) days after the Bid opening.

The next lowest responsible Bid shall be considered the successful bid, and that Bidder, at the discretion of the Owner, shall be awarded the Contract.

## **7. CONTRACT TIME**

The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment (the Contract Time) are set forth in the General Requirements.

## **8. LIQUIDATED DAMAGES**

Provisions for liquidated damages, if any, are set forth in the General Requirements.

## **9. SUBSTITUTE OR "OR-EQUAL" ITEMS**

The Contract, if awarded, will be on the basis of materials and equipment described in the Contract Documents without consideration of possible substitute or "or-equal" item. Substitute or "or-equal" items of material or equipment may be furnished or used by the Contractor if acceptable to the Engineer, application for such acceptance will not be considered by the Engineer until after the Effective Date of the Agreement. The procedure for submissions of any such application by the Contractor and considerations by the Engineer is set forth in the General Conditions.

## **10. SUBCONTRACTORS, SUPPLIERS AND OTHERS**

No Contractor shall be required to employ any Subcontractor, supplier, other person or organization against whom the Contractor has reasonable objection.

## **11. BID PROPOSAL AND BID PROPOSAL FORM**

11.1 The total of all prices will be determined as the sum of the products of the estimated quantity of each item and the unit price Bid for the item. If the bid form is separated into different

sections and/or "add alternates", the Bidder must show a unit price for all bid items in all sections and "add alternates."

- 11.2 Discrepancies between the multiplication of units of work and unit prices will be resolved in favor of unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of words.
- 11.3 All blanks on the Bid Proposal Form must be completed.
- 11.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown.
- 11.5 The address, telephone number and fax number, if any, for communications regarding the Bid must be shown.

## **12. SUBMITTAL OF BIDS**

- 12.1 Bids shall be submitted at the time and place indicated in the Advertisement to Bid.
- 12.2 Each Bid must be submitted electronically through BidVAULT. Hard copies of bids shall not be accepted.
- 12.3 If you are unfamiliar with electronic bidding or you have questions about the process, reference the City of Lakeville's website at <https://www.lakevillemn.gov/611/Bid-Requests>. There you will find information about setting up an online account, submitting a bid, and more.
- 12.4 Bidding documents that must be completed and submitted as part of the bid are: Non-Collusion Declaration and the Responsible Contractor Certificate. These documents must be completed electronically through BidVAULT in order to submit a bid.

## **13. MODIFICATION AND WITHDRAWAL OF BIDS**

- 13.1 Bids may be modified or withdrawn on BidVAULT at any time prior to the opening of Bids.
- 13.2 If, by the next working day at the same time of bid opening after Bids are opened, any Bidder files a duly signed, written notice with the Owner and promptly thereafter demonstrates to the reasonable satisfaction of the Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

13.3 Bids received prior to the time of opening will be securely kept, unopened. The officer whose duty it is to open them will decide when the specified time has arrived, and no Bid received thereafter will be considered.

#### **14. OPENING OF BIDS**

Bids will be opened and tabulated in such place as designated at the time and the date set in the "Advertisement for Bids". Bid results and tabulations may be viewed on the City of Lakeville's Public Dashboard at <https://mn-ci-lakeville.app.rtvision.com/oneoffice/public/bidding>. An abstract of the amounts of the base Bids and major alternates (if any) will be made available to Bidders after the opening of Bids.

#### **15. BIDS TO REMAIN SUBJECT TO ACCEPTANCE**

All bids will remain subject to acceptance for ninety (90) days after the day of the Bid opening, but the Owner may, in its sole discretion, release any Bid and return the Bid security prior to that date.

#### **16. SUPPLEMENTAL INFORMATION REQUEST**

After the bids are open and prior to Notice of Award, in addition to information required by the supplementary conditions the Owner may request from any Bidder such information as Owner may deem necessary to evaluate the responsibility, qualifications and financial ability of the Bidder to perform the Work. Bidder shall, within seven days of receipt of request from Owner, provide the requested information in a form acceptable to Owner.

#### **17. AWARD OF CONTRACT**

17.1 The Owner reserves the right to reject any and all Bids, to waive any and all informalities not involving price, time or changes in the Work and to negotiate contract terms with the successful Bidder, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional Bids. Also, the Owner reserves the right to reject the Bid of any Bidder if the Owner believes that it would not be in the best interest of the project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the Owner. Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

- 17.2 In evaluating Bids, the Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the bid form or prior to the Notice of Award.
- 17.3 The Owner may consider the qualifications and experience of Subcontractors, suppliers, and other persons and organizations proposed for those portions of the work as to which the identity of Subcontractors, suppliers, and other persons and organizations must be submitted as provided in the General Conditions. The Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the work when such data is required to be submitted prior to the Notice of Award.
- 17.4 The Owner may conduct such investigations as the Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of Bidders, proposed Subcontractors, suppliers and other persons and organizations to perform and furnish the work in accordance with the Contract Documents to the Owner's satisfaction within the prescribed time.
- 17.5 If the Contract is to be awarded, it will be awarded to the lowest base total bid of qualified, responsible, and responsive Bidder whose evaluation by the Owner indicates to the Owner that the award will be in the best interest of the project.
- 17.6 If the contract is to be awarded, the Owner will give the successful Bidder a Notice of Award within one hundred five (105) days after the day of the Bid opening.
- 17.7 The Owner reserves the right to cancel the award of any Contract at any time before the execution of said Contract by all parties without any liability against the Owner or its agents, officials, employees or consultants.
- 17.8 The Lakeville City Council will consider award of bids for this project at their next regular meeting or as soon thereafter as possible.

## **18. CONTRACT SECURITY**

The General Conditions and the Special Conditions set forth the Owner's requirements as to performance and payment bonds. When the successful Bidder delivers the executed Agreement to the Owner, it must be accompanied by the required performance and payment bonds.

## **19. SIGNING OF AGREEMENT**

The Owner within 10 days of receipt of an acceptable affidavit, performance bond, payment bond, Agreement signed by the party to whom the Agreement was awarded, and Council approval to award the contract, shall sign the Agreement and return to such party an executed triplicate of the Agreement.

Should the Owner not execute the Agreement within such period, the bidder may, by written notice, withdraw his signed Agreement. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner.

A notice to proceed shall be issued within 10 days of the execution of the Agreement by the Owner and completion of a pre-construction meeting. Should there be reasons why the notice to proceed cannot be issued within such period, the time may be extended by mutual agreement between the Owner and Contractor. If the notice to proceed has not been issued within the 10 day period or within the period mutually agreed upon, the Contractor may terminate the Agreement without further liability on the part of either party.

**ATTACHMENT A**

**PRIME CONTRACTOR RESPONSE**

**RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE**

**STATE AID 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.**

Minn. Stat. §16C.285, Subd. 7. **IMPLEMENTATION** ...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...

Minn. Stat. §16C.285, Subd. 3. **RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA.** "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:

(1) The Contractor:

- (i) is in compliance with workers' compensation and unemployment insurance requirements;
- (ii) is in compliance with Department of Revenue and Department of Employment and Economic Development registration requirements if it has employees;
- (iii) has a valid federal tax identification number or a valid Social Security number if an individual; and
- (iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.

(2) 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, 181.03, 181.101, 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:

- (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;
- (ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final;
- (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;
- (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;
- (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

|     |   |
|-----|---|
|     | (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;* |
| (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.**

|  |                      |
|--|----------------------|
| <b>Authorized Signature of Owner or Officer: TBD</b> | <b>Printed Name:</b> |
| <b>Title:</b>  | <b>Date: TBD</b>     |
|  |                      |

|                      |  |
|----------------------|--|
| <b>Company Name:</b> |  |
|----------------------|--|

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**

**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.

|  |
|--|
| <p><b>FIRST TIER SUBCONTRACTOR NAMES</b></p> <p><i>*Expand text box by dragging lower right corner</i></p> <p><b>(Legal name of company as registered with the Secretary of State &amp; name of city where home office is located)</b></p> |
|--|

|  |                      |
|--|----------------------|
| <b>SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-1</b>   |                      |
| <p><b>By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:</b></p> <p><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></p> |                      |
| <b>Authorized Signature of Owner or Officer: TBD</b>   | <b>Printed Name:</b> |
| <b>Title:</b>  | <b>Date: TBD</b>     |
| <b>Company Name:</b>   |                      |

**NON-COLLUSION AFFIDAVIT**

The following Non-Collusion Affidavit shall be executed by the bidder:

**State Project No.** \_\_\_\_\_

**Federal Project No.** \_\_\_\_\_

**State of Minnesota** \_\_ )

) ss

**County of** \_\_ )

I, \_\_\_\_\_, do state under penalty  
of

(name of person signing this affidavit)

perjury under 28 U.S.C. 1746 of the laws of the United States:

(1) that I am the authorized representative of

\_\_\_\_\_  
(name of person, partnership or corporation submitting this proposal)

and that I have the authority to make this affidavit for and on behalf of said bidder;

(2) that, in connection with this proposal, the said bidder has not either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding;

(3) that, to the best of my knowledge and belief, the contents of this proposal have not been communicated by the bidder or by any of his/her employees or agents to any person who is not an employee or agent of the bidder or of the surety on any bond furnished with the proposal and will not be communicated to any person who is not an employee or agent of the bidder or of said surety prior to the official opening of the proposal, and

(4) that I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: TBD

\_\_\_\_\_  
(bidder or authorized representative)

# AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT

---

THIS AGREEMENT is by and between \_\_\_\_\_ (“Owner”) and  
\_\_\_\_\_ (“Contractor”).

---

Owner and Contractor hereby agree as follows:

## ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: Ritter Farm Trailhead & Downtown Lakeville Gateway Project

## 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 Ritter Farm Trailhead with a Shelter Structure and miscellaneous landscape items
- Construction of Downtown Lakeville Gateway with miscellaneous landscape items.

## ARTICLE 3 – ENGINEER

3.01 The Project has been designed by WSB, LLC

## ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

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

4.02 *Contract Times: Dates*

- A. The Work East of Dodd Boulevard will be substantially completed on or before **July 1, 2026**.
- B. The Work West of Dodd Boulevard cannot begin prior to **July 13, 2026**.
- C. All Work will be substantially completed on or before **October 16, 2026**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions.

1. Substantial Completion shall include the work as described:

Includes utility installation, placement of the final lift of bituminous wear course, sidewalk, pedestrian ramps, signage, pavement markings, restoration and cleanup.

- D. All Work will be final completed on or before **October 30, 2026**.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty);

1. The liquidated damages shall be in accordance with Table 1807-1 Schedule of Liquidated Damages for all stated completion dates, as well as any intermediate completion dates.
2. Failure to complete wear course paving and open the roadway to traffic consistent with completion dates outlined in the General Conditions.
3. Failure to provide temporary stabilization and appropriate erosion/sediment control.
4. Liquidated damages will be cumulative, and shall be collected for each portion of the project under construction in which the specified parameters have not been met.

## ARTICLE 5 – CONTRACT PRICE

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

- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item). The Contractor's Bid, attached hereto as an exhibit, provides the basis for the extended prices for the Unit Price Work. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities) \$\_\_\_\_\_.

## ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

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

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the third Monday 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 Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
- b. 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 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's

estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

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

**ARTICLE 7 – INTEREST**

7.01 All amounts not paid when due shall bear interest at the rate of 5 percent per annum.

**ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS**

8.01 In order to induce the Owner to enter into this Contract, Contractor makes the following representations:

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

Subcontractors proposed for the work. Subcontractors may not be changed except at the request or the with the consent of the Owner.

- L. The Contract Documents shall not be construed as creating any contractual relationship between the Owner and any subcontractor.

## **ARTICLE 9 – CONTRACT DOCUMENTS**

### **9.01 Contents**

- A. The Contract Documents consist of the following:
  - 1. This Agreement (pages 1 to █, inclusive).
  - 2. Performance bond (pages █ to █, inclusive).
  - 3. Payment bond (pages █ to █, inclusive).
  - 4. Other bonds.
    - a. Maintenance bond (pages █ to █, inclusive).
  - 5. General Conditions (pages █ to █, inclusive).
  - 6. Supplementary Conditions (pages █ to █, inclusive).
  - 7. Specifications as listed in the table of contents of the Project Manual.
  - 8. Drawings (not attached but incorporated by reference) consisting of █ sheets with each sheet bearing the following general title: █, dated █.
  - 9. Addenda (numbers █ to █, inclusive).
  - 10. Exhibits to this Agreement (enumerated as follows):
    - a. Contractor's Bid (pages █ to █, inclusive).
    - b. Non-Collusion Affidavit
    - c. Responsible Contractor Verification and Certification Form
  - 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    - a. Notice to Proceed.
    - b. Work Change Directives.
    - c. Change Orders.
    - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

## **ARTICLE 10 – MISCELLANEOUS**

### **10.01 Terms**

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

### **10.02 Assignment of Contract**

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

that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

#### 10.03 *Successors and Assigns*

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

#### 10.04 *Severability*

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

#### 10.05 *Contractor's Certifications*

- A. The provisions of MINN. STAT. 16C.285 Responsible Contractor are imposed as a requirement of this Contract. This Contract may be terminated by the Owner at any time upon discovery by the Owner that the prime contractor or subcontractor has submitted a false statement under oath verifying compliance with any of the minimum criteria set forth in the Statute.
- B. The provisions of MINN. STAT. 471.425, subdivision 4a. are imposed as a requirement of this Contract.
  - 1. Each contract of a municipality must require the prime contractor to pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A Subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

#### 10.06 *Indemnity*

- A. The Contractor agrees to indemnify and hold the City harmless from any claim made by third parties as a result of the services performed by it. In addition, the Contractor shall reimburse the City for any cost of reasonable attorney's fees it may incur as a result of any such claims.

#### 10.07 *Other Provisions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.
- B. Any provision or part of the Contract Documents held to be void or unenforceable under any law or regulation shall be deemed stricken, and all remaining provisions shall continue to be

valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provisions.

10.08 *Software License.*

- A. If the equipment provided by the Contractor pursuant to this Contract contains software, including that which the manufacturer may have embedded into the hardware as an integral part of the equipment, the Contractor shall pay all software licensing fees. The Contractor shall also pay for all software updating fees for a period of one year following cutover. The Contractor shall have no obligation to pay for such fees thereafter. Nothing in the software license or licensing agreement shall obligate the City to pay any additional fees as a condition for continuing to use the software.

10.09 *Patented devices, materials and processes.*

- A. If the Contract requires, or the Contractor desires, the use of any design, device, material or process covered by letters, patent or copyright, trademark or trade name, the Contractor shall provide for such use by suitable legal agreement with the patentee or owner and a copy of said agreement shall be filed with the Owner. If no such agreement is made or filed as noted, the Contractor shall indemnify and hold harmless the Owner from any and all claims for infringement by reason of the use of any such patented designed, device, material or process, or any trademark or trade name or copyright in connection with the Project agreed to be performed under the Contract, and shall indemnify and defend the Owner for any costs, liability, expenses and attorney's fees that result from any such infringement.

10.10 *Assignment.*

- A. Neither party may assign, sublet, or transfer any interest or obligation in this Contract without the prior written consent of the other party, and then only upon such terms and conditions as both parties may agree to and set forth in writing.

10.11 *Permits and Licenses; Rights-of-Way and Easements.*

- A. The Contractor shall give all notices necessary and incidental to the construction and completion of the Project. The City will obtain all necessary rights-of-way and easements. The Contractor shall not be entitled to any additional compensation for any construction delay resulting from the City's not timely obtaining rights-of-way or easements.

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

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

*Note that the Effective Date of the Contract should match the dates of any construction bonds, if possible. The bonds shall not be dated earlier than the effective date of the Contract.*

OWNER:

CONTRACTOR:

\_\_\_\_\_

\_\_\_\_\_

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

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

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

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

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

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

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

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

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

Address for giving notices:

Address for giving notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

*(where applicable)*

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

# PERFORMANCE AND PAYMENT BONDS

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## PART A: PAYMENT

**KNOW ALL MEN BY THESE PRESENTS**, that we \_\_\_\_\_

Contractor, as Principal, and \_\_\_\_\_  
are firmly bound unto the \_\_\_\_\_, a Minnesota Corporation, (hereinafter referred to as "Obligee"), for the use and benefit of Obligee and all persons furnishing labor and materials to perform the Contract, in an amount of \_\_\_\_\_ and \_\_\_\_\_/100 Dollars, for payment of all claims, costs and charges as hereinafter set forth. For the payment of this obligation, well and truly made, we jointly and severally bind ourselves, our representatives and successors firmly by these presents.

The condition of this obligation is such that whereas the Principal has entered into a written contract with the Obligee dated \_\_\_\_\_, which contract is on file in the office of the Obligee, the regularity and validity of which is hereby affirmed;

NOW THEREFORE, if the Principal shall pay as they may come due all just claims for work done; for furnishing labor and materials, insurance premiums, equipment, or supplies for the purpose of such contract, and all taxes incurred under Minnesota Statutes, Section 290.92 or Chapter 297A, and supplies for the completion of the contract in accordance with its terms, and shall pay all costs of enforcement of the terms of the bond, if action is brought thereon, including reasonable attorney's fees, costs and disbursements in any case in which such action is successfully maintained, and shall comply with the laws of the state appertaining to such contract, then this obligation shall be void but otherwise it shall remain in full force and effect pursuant to Minnesota Statutes, Chapter 574.

## PART B: PERFORMANCE

**KNOW ALL MEN BY THESE PRESENTS**, that the aforesaid Principal and Surety are held and firmly bound unto the Obligee, for the use and benefit of the Obligee, in the additional amount of \_\_\_\_\_

and \_\_\_\_\_/100 Dollars, for the faithful performance of the Contract pursuant to its terms, as hereinafter set forth.

For the payment of this well and truly to be made we jointly and severally bind ourselves, our representatives and successors firmly by these presents.

The condition of this obligation is such that whereas the Principal has entered into the Contract more particularly described in Part A hereof, the regularity and validity of which is hereby affirmed:

NOW, THEREFORE, if the Principal shall faithfully perform the Contract and shall save the Obligee harmless from all cost and charges that may accrue on account of the doing of the work specified and shall pay all costs of enforcement of the terms of the bond, if action is brought thereon, including reasonable attorney's fees, in any case in which such action is successfully maintained, and shall comply with the laws of the state pertaining to such Contract, then this obligation shall be void but otherwise it shall remain in full force and effect pursuant to Minnesota Statutes, Chapter 574.

The aggregate liability for bonds provided under Part A and Part B hereof is \_\_\_\_\_

(Sum of Parts A and B)

No assignment, modifications, or change in the Contract, or change in the work covered thereby, nor any extension of time for completion of the Contract, shall release the Surety on this bond.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Contractor

Surety

By \_\_\_\_\_

By \_\_\_\_\_

Its \_\_\_\_\_

Its \_\_\_\_\_

And \_\_\_\_\_

Its \_\_\_\_\_

(Seal of Contractor if a Corporation)

Witnesses to Contractor's Signature:

Witnesses to Surety's Signature:

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

# Exemption from Surety Deposits for Non-Minnesota Contractors

Please type or print clearly. This information will be used for returning the form to you.

|                            |                        |                                      |  |                         |
|----------------------------|------------------------|--------------------------------------|--|-------------------------|
| Contractor Information     | Contractor             |                                      | Total contract amount                    | Minnesota tax ID number |
|                            | Address                |                                      | \$                                       |                         |
|                            | City                   | State                                | ZIP code                                 | Daytime phone           |
|                            | Contract starting date |                                      | Projected completion date                |                         |
| Business type (check one): |                        |                                      |  |                         |
|                            |                        | <input type="checkbox"/> Corporation | <input type="checkbox"/> S corporation   |                         |
|                            |                        | <input type="checkbox"/> Partnership | <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 location address              |  | City | State          | ZIP code      |
| Project number      |                                       |  |      |                |               |

I request exemption from surety deposits under Minnesota law (M.S. 290.9705) for the following reason (check one box only and complete the information requested):

|   |  |       |               |                                 |
|---|--|-------|---------------|---------------------------------|
| Reason for Exemption  | <input type="checkbox"/> 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. <b>Attach a copy of Form SDB, Non-Minnesota Contractor's Bond.</b> |       |               |                                 |
|   | Bonding company  |       | Bonding agent |                                 |
|   | Address  |       | Daytime phone |                                 |
|   | City   | State | ZIP code      | Period of bond (month/day/year) |
| From / / To / /   |  |       |               |                                 |
| <input type="checkbox"/> 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 use, corporate franchise and withholding taxes. |  |       |               |                                 |
| <input type="checkbox"/> I am performing work for a government agency and have a payment and performance bond.  |  |       |               |                                 |
| <input type="checkbox"/> 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.

|           |                        |       |      |
|-----------|------------------------|-------|------|
| Sign Here | Contractor's signature | Title | Date |
|           |                        |       |      |

**Mail to:** Minnesota Revenue, Mail Station 5410, St. Paul, MN 55146-5410

**Department of Revenue Approval**  
 The above-named non-Minnesota contractor is exempt from the surety requirements of Minnesota Statute 290.9705 for this project.

Department of Revenue approval \_\_\_\_\_ Date \_\_\_\_\_

## Form SDE Instructions

*Unless the non-Minnesota construction contractor is approved for exemption, any person or business that hires or contracts with the contractor must withhold 8 percent of their compensation as a Minnesota surety deposit.*

*The withholding amount is deposited with the department and is used as a surety to guarantee that the contractor has fulfilled the requirements for withholding, sales and use, corporate franchise and income taxes.*

*For additional information regarding the 8 percent withholding, see Fact Sheet 12, Surety Deposits for Non-Minnesota Construction Contractors.*

### Purpose of Form SDE

If you are a non-Minnesota construction contractor and you want to apply for an exemption from the surety deposit (see “Exemption Requirements” below), complete and file Form SDE with the department before you start the project.

If approved, give the original, signed Form SDE to the person or business for whom you are doing the work to show you are exempt from the 8 percent surety deposit.

### Surety Deposit Law

If you hire or contract with a non-Minnesota contractor to perform construction work in Minnesota, you must withhold 8 percent (.08) of their compensation as a Minnesota surety deposit. Payments are subject to 8 percent withholding only if the work was performed in Minnesota and the value of the contract exceeds \$50,000.

### Exemption Requirements

A non-Minnesota construction contractor may qualify for an exemption from the surety deposit if one of the following requirements are met:

- The contractor gives the department a bond that is secured by an insurance company licensed in Minnesota and is equal to 8 percent of the contract. The bond remains in effect until the contractor satisfies all tax liabilities. You may choose to complete Form SDB, *Non-Minnesota Contractor’s Bond*, to submit to the department.

- The contractor gives the department a cash surety. A cash surety is evidence of a savings account, deposit or certificate of deposit in, or issued by, a state bank, national bank or savings and loan association doing business in Minnesota. Interest and dividends earned on the principal amount may be retained by the contractor.
- The contractor is performing work for a government agency and has a payment and performance bond.
- The contractor has done construction work in Minnesota during the past three calendar years and has fully complied with Minnesota laws regarding withholding, sales and use, corporate franchise and income taxes.

If a non-Minnesota contractor is hired or contracted to perform construction work in Minnesota, the person or business who is paying the contractor must withhold 8 percent of the payment as a Minnesota surety deposit.

Unless the contractor has received exemption from surety deposits, payments made to the contractor are subject to 8 percent withholding, if:

- the construction work was performed in Minnesota; and
- the value of the contract exceeds \$50,000.

### Who can apply?

A non-Minnesota contractor can apply for an exemption if your contract exceeds or is expected to exceed \$50,000.

### Before You Start

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

If you don’t have a Minnesota ID number, you may apply online at [www.revenue.state.mn.us](http://www.revenue.state.mn.us) or by calling our Business Registration Office 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 you start the project.

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

### If You’re Approved

If we approve the exemption, we will sign the bottom of the 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, corporate franchise and sales and use tax laws, you’ll receive a refund plus interest.

### Information and Assistance

Additional forms and information, including fact sheets and frequently asked questions, are available on our website.

Website: [www.revenue.state.mn.us](http://www.revenue.state.mn.us)

Email: [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us)

Phone: 651-282 9999 or 1-800-657-3594.  
(TTY: Call 711 for Minnesota Relay)

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

### Use of Information

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

All information, except your Minnesota tax ID number, 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.

# Contractor Affidavit

This Contractor Affidavit must be certified by the Minnesota Department of Revenue before the state of Minnesota or any of its subdivisions can make final payment to contractors. For more detailed information, see the instructions on the back of this form.

Please type or print clearly. This information will be used for returning the completed form.

|              |       |                       |                         |
|--------------|-------|-----------------------|-------------------------|
| Company name |       | Daytime phone         | Minnesota tax ID number |
| Address      |       | Total contract amount | Month/year work began   |
| City         | State | ZIP code              |                         |
|              |       | \$                    | Month/year work ended   |
|              |       | Amount still due      |                         |
|              |       | \$                    |                         |

Project Information

|                |                  |      |       |          |
|----------------|------------------|------|-------|----------|
| Project number | Project location |      |       |          |
| Project owner  | Address          | City | State | ZIP code |

Did you have employees work on this project?  Yes  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 submit their own Contractor Affidavits and have them certified by the Department of Revenue *before* you can submit your Contractor Affidavit. For each subcontractor you had, fill in the information below and attach a copy of each subcontractor's certified Contractor Affidavit. 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  
 Phone: 651-282-9999 or 1-800-657-3594 (TTY: Call 711 for Minnesota Relay).

### Certificate of Compliance

Based on records of the Minnesota Department of Revenue, I certify that the contractor who has signed this Contractor Affidavit 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 \_\_\_\_\_

## Form IC134 Instructions

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### Contractor Affidavit

No state agency or local unit of government can make final payment to a contractor until the Department of Revenue has certified that the contractor and any subcontractor have fulfilled the requirements of Minnesota withholding tax laws.

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 submit a Contractor Affidavit to the Department of Revenue to receive a certificate of compliance.

### Use of Information

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

All information on this Contractor 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.

### Minnesota Tax ID Number

You must have a Minnesota tax ID number if you have employees who work in Minnesota. You must enter your Minnesota tax ID number on Form IC134.

If you don't have a Minnesota tax ID number, apply online at [www.revenue.state.mn.us](http://www.revenue.state.mn.us) or by calling our Business Registration Office at 651-282-5225 or 1-800-657-3605.

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

### Submit Contractor Affidavit

Form IC134 cannot be processed by the Department of Revenue until you finish the work. If you submit the form before the project is completed, it will be returned to you unprocessed.

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

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

If you are a prime contractor, submit the form when the entire project is completed and you have received certified Contractor Affidavits from all of your subcontractors.

### 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 IC134.

You may submit your Contractor Affidavit either electronically **or** by mail. This affidavit must be certified and returned before the state or any of its subdivisions can make final payment for your work.

**For an immediate response:** Complete and submit your Contractor Affidavit electronically. Go to [www.revenue.state.mn.us](http://www.revenue.state.mn.us) and choose Withholding Tax. Under the File and Pay tab, click on Contractor Affidavit Information for Government Projects.

**You may complete and mail Form IC134 to:** Minnesota Revenue, Mail Station 6610, St. Paul, MN, 55146-6610. If you have fulfilled the requirements of Minnesota withholding tax laws, the department will sign your Form IC134 and return it to you.

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

### Information and Assistance

Additional forms and information, including fact sheets and frequently asked questions, are available on our website.

Website: [www.revenue.state.mn.us](http://www.revenue.state.mn.us)

Email: [withholding.tax@state.mn.us](mailto:withholding.tax@state.mn.us)

Phone: 651-282 9999 or 1-800-657-3594.

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

# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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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 GENERAL CONDITIONS

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## SUPPLEMENTARY GENERAL CONDITIONS

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### SGC 0 INTRODUCTION

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

### SGC 1.01 DEFINED TERMS

The terms used in these Supplementary Conditions, which are defined in the Standard General Conditions of the Construction Contract (C-700, 2013 Edition), have the meanings assigned to them in the General Conditions.

Owner shall mean the City of Lakeville, 20195 Holyoke Avenue, Lakeville, MN 55044.

Engineer shall mean the City Engineer of the City of Lakeville or the Engineer representing the Owner on the project.

Department shall mean the City of Lakeville Public Works.

Contractor shall mean the individual or entity with whom the Owner has entered into the Agreement.

Observer shall mean the individual or entity with whom the Owner and Engineer is represented in the observation and construction of the project.

### SGC 2.01 DELIVERY OF BONDS AND EVIDENCE OF INSURANCE

Delete paragraph 2.01B and insert the following:

Before any work at the site is started, Contractor shall deliver to Owner, with a copy to Engineer, certificates (and other evidence of insurance requested by Owner) which Contractor is required to purchase and maintain in accordance with paragraphs 6.02 and 6.03.

### SGC 2.03 BEFORE STARTING CONSTRUCTION

Paragraph 2.03.A of the General Conditions shall be deleted in its entirety and replaced by the following paragraphs.

- B. Within ten (10) days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements) and before the preconstruction conference, Contractor shall submit to Engineer the following for its timely review.
  1. The Contractor shall submit in writing to the Engineer for review a progress schedule indicating the order in which the Contractor proposes to perform the various stages of the Work, the dates on which the Contractor will start the various features thereof, and the contemplated dates for completing the same. This schedule shall be in the form of a bar chart of a suitable scale to indicate appropriately the percentage of work scheduled and completed by weekly schedules. The lack of a schedule shall be cause for withholding of progress payments and could result in a work stoppage. If the work is stopped, no credit of working days or payment of down time will be provided.

The Contractor shall not deviate from this schedule after once approved without the written permission of the Engineer. The progress schedule will be acceptable to the Engineer if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on the Engineer responsibility for the progress schedule of the Work nor interfere with or relieve the Contractor from the Contractor's full responsibility therefore.

2. The Contractor shall present to the Engineer six (6) copies of detailed, dimensioned manufacturer's drawings of all materials, apparatus and machinery, and for such fittings and devices as the Engineer may direct. The Engineer will keep two copies of each set and return the rest to the Contractor with the Engineer's approval or notations. In case of lack of approval, the Contractor shall submit new drawings, corrected as required by the Engineer. All such drawings shall be submitted to the Engineer with ample time allowance for consideration. Submittals shall be required for, but not limited to: Manhole Structures, Castings, Sewer Pipe, Water Main, Lift Stations, and Waterworks Brass.
3. The Engineer's approval of such drawings and progress schedules shall not relieve the Contractor from responsibility for deviations from drawings or specifications unless the Contractor has, in writing, called the Engineer's attention to such deviations at the time of submission, nor shall it relieve the Contractor from the responsibility for errors of any sort in shop drawings or progress schedules. No Work shall be started until the drawings and progress schedules have been approved by the Engineer.

#### **SGC 2.04 PRECONSTRUCTION CONFERENCE**

Add a new paragraph immediately after 2.04.A of the General Conditions, which is to read as follows:

- B. The preconstruction meeting will be arranged by the Engineer. Representatives of the Engineer, Owner, Contractor, utility companies and other parties involved in the project shall be present at this meeting. The Contractor's project superintendent and foreman will be present at this meeting. The Contractor's project superintendent shall be familiar with all phases of the work to be executed and shall oversee the work during its progress. The project superintendent shall represent the Contractor in the Contractor's absence, and communications and directions given to the project superintendent shall be as binding as if given to the Contractor. The Contractor's work schedule and a list of subcontractors and suppliers shall be submitted and reviewed along with any other information necessary for the orderly execution of the work at the preconstruction conference.

#### **SGC 2.05 INITIAL ACCEPTANCE OF SCHEDULES**

Paragraph 2.05 of the General Conditions shall be deleted in its entirety.

#### **SGC 3.02 REFERENCE STANDARDS**

Add new paragraphs immediately after 3.02.A.2 of the General Conditions, which are to read as follows:

3. The work shall be performed in accordance with:
  - A. The 2025 edition of the Minnesota Department of Transportation Standard Specifications for Construction, (MnDOT Specifications) and any supplements or amendments thereto issued prior to the date of these Contract Documents, including the current MnDOT 2360 Plant Mixed Asphalt Pavement Specification;

- B. The most current City of Lakeville Utility and Street Construction Standard Specifications and Detail Plates, dated February 2024;
- C. The 2018 Edition of the Standard Utilities Specifications for Water Main and Service Line Installation and Sanitary Sewer and Storm Sewer Installation as published by the League of Minnesota Cities, St. Paul, Minnesota, and Standard Detail Plates; and
- D. The Project Manual, which contain individual project Bidding Requirements, Proposal Form, Conditions of the Contract, Contract Forms, Specifications, and any other project-specific information in the form of appendices.

Traffic control shall be in accordance with the current edition of the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD), including the current edition of the Field Manual for Temporary Traffic Control Zone Layouts.

The provisions for construction shall comply with the following precedence (“1” being the highest precedence, “3” being the lowest):

- 1) Individual Project Plan
- 2) Individual Project Manual
- 3) MnDOT Standard Specifications for Construction

Any conflicting requirements or language shall follow that stated in the highest precedence document of those listed above, unless directed in writing by the Engineer.

- 4. Coordination of Plans and Specifications shall be in accordance with the provisions of MnDOT Specification 1504, as modified by the following definitions:
  - a. Standard Specification: Refer in precedent order to the current Standard Utilities Specifications of the City Engineers Association, the current MnDOT Standard Specifications and the other specifications of ASTM, ANSI, AWWA, etc., as referenced and as published on the date of the bid advertisement.
  - b. Supplemental Specifications: Refer in precedent order to the Supplementary Conditions and the General Conditions as contained in these Contract Documents.
  - c. Work under these Contract Documents shall be governed by all applicable federal, state, and local laws, regulations, codes and ordinances, and the Contract Documents, which are as follows:

- General Conditions
- Supplementary Conditions
- General Requirements
- Special Provisions
- Addenda
- Proposal
- Contract Documents
- Technical Specifications

Should the Contract Documents conflict with any of the regulations and standards mentioned in preceding paragraphs of these Supplementary Conditions, the regulations and standards shall take precedence. This shall not, however, be construed to relieve the Contractor from complying with the requirements of the Contract Documents, which are in excess of, but not contrary to, the regulations and standards.

#### **SGC 4.03 REFERENCE POINTS**

Add new paragraphs immediately after 4.03.A of the General Conditions, which are to read as follows:

- B. All property corner monuments and section corners known by the Engineer will be marked prior to construction. Any such monuments required to be removed by the proposed construction will be replaced at the Owner's expense. Any such monuments outside the proposed construction limits shall be protected by the Contractor. Should any monuments outside the proposed construction limits be disturbed, a Licensed Land Surveyor will reset them at the Contractor's expense.
- C. The Contractor shall give the Engineer forty-eight (48) hour notice of need for the establishment of line and grade so that the Engineer may have time to provide them. No additional compensation shall be allowed by the Contractor for any claims of crews being held up because of lack of line and grade stakes. After lines and grades for any part of the work have been given by the Engineer, the Contractor will be held responsible for such lines and grades. It shall be the Contractor's total responsibility to accurately construct the streets and utilities in accordance with the construction stakes and bringing any discrepancies to the attention of the Engineer. All stakes or other marks given shall be protected and preserved by the Contractor until the Contractor is authorized to remove them. The Contractor shall be billed the cost of any re-staking due to their negligence. The Contractor shall, at their own expense, correct any mistakes that may be caused by the unauthorized disturbance or removal of line and grade stakes. The Engineer may require that work be suspended when, for any reason, such marks cannot be properly followed.

#### **SGC 4.04 PROGRESS SCHEDULE**

Paragraph 4.04.A of the General Conditions shall be deleted in its entirety.

#### **SGC 5.03 SUBSURFACE AND PHYSICAL CONDITIONS**

Add new paragraphs immediately after 5.03.B of the General Conditions, which are to read as follows:

- C. Notwithstanding Paragraphs 5.03.A and 5.03.B, under no circumstances may the Contractor rely upon the accuracy of the "technical data" contained in reports of explorations or tests of the amounts, elevations, or locations of subsurface groundwater.

**SGC 5.04            DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS**

Amend paragraph 5.04.d.2.a. by inserting in the first line of this paragraph immediately after the word "condition" the following:

                                  "or reasonably should have known thereof."

**SGC 5.061            HAZARDOUS ENVIRONMENTAL CONDITION AT SITE**

Paragraph 5.061 of the General Conditions shall be deleted in its entirety.

**SGC 6.01B            PERFORMANCE, PAYMENT, AND OTHER BONDS**

The first sentence of this section is changed to read as follows:

All bonds shall be in a form acceptable to Owner and shall fulfill statutory requirements

**SGC 6.03            CONTRACTOR'S LIABILITY INSURANCE**

The following supplementary conditions are for City street and utility construction contracts.

Add the following new paragraph immediately after paragraph 6.03.B:

C.        The limits of liability for the insurance required by paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations. The intent is to require all Contractors to carry at least \$2,000,000 of coverage. These limits may be derived from the use of underlying coverage or Umbrella/Excess Insurance.

- 1.        Worker's Compensation and related coverage under paragraphs 6.03 of the General Conditions.

                                  Coverage A: Statutory

                                  Coverage B: Employers Liability

|  |             |
|--|-------------|
| Bodily Injury by Accident: Each Accident | \$500,000   |
| Bodily Injury by Disease: Each Employee  | \$500,000   |
| Bodily Injury by Disease: Policy Limit   | \$2,000,000 |

                                  Coverage may be written at the State minimum limits but the difference must be supplemented through the use of an Umbrella/Excess policy.

- 2.        Contractors General Liability under paragraph 6.03.C of the General Conditions which shall also include completed operations and product liability coverage and eliminate the exclusion with respect to property under the care, custody and control of Contractor. The policy shall name the City of Lakeville as an additional insured on a primary and non-contributory basis. As an additional insured, the City of Lakeville shall be entitled to the limit required by this agreement or Contractor's actual policy limits, whichever is greater.

                                  Contractor is required to provide the following endorsements: CG 20 10 07 04 or CG 20 10 04 13 and CG 20 37 07 04 or CG 20 37 04 13 or their equivalent.

                                  General Liability:

                                  Commercial General Liability

|   |             |
|---|-------------|
| General Aggregate                                   | \$2,000,000 |
| Product – Completed Operations Aggregate            | \$2,000,000 |
| Personal and Advertising Injury                     | \$1,000,000 |
| Each Occurrence (Bodily Injury and Property Damage) | \$1,000,000 |

(Explosion, Collapse, and Underground shall not be deleted)  
 Certificate of Insurance should indicate:  
 Contractual Liability is covered Yes  
 Governmental Immunity is waived to the extent of insurance Yes  
 Operations of subcontractor is covered Yes

Optional:

Certificate of Insurance should indicate:  
 Contractual Liability is covered Yes  
 Operations of subcontractor is covered Yes

The intent is to ensure that the “per occurrence” limits and “product-completed operation” aggregates are at least \$2,000,000, but may be attained through the use of an Umbrella/Excess policy.

3. Automobile Liability:

Bodily Injury:  
 Each Person \$2,000,000  
 Each Accident \$2,000,000

Property Damage:  
 Each Accident \$2,000,000

or

Bodily Injury & Property Damage (Combined Single Limit) \$2,000,000

The intent is to ensure that the limits are at least \$2,000,000, but may be attained through the use of an Umbrella/Excess policy.

4. Umbrella/Excess Liability:

General Aggregate \$5,000,000\*  
 Each Occurrence \$5,000,000

\*The required minimum shall be \$5,000,000, or policy limits, whichever is greater.

The Contractor is also responsible for meeting all insurance requirements set by Dakota County for any work on or under the County right-of-way.

**SGC 6.04 OWNER'S LIABILITY INSURANCE**

Paragraph 6.04A of the General Conditions shall be deleted in its entirety.

**SGC 6.05 PROPERTY INSURANCE**

Delete paragraph 6.05 in its entirety and insert the following:

**Builder's Risk Insurance:** Before commencement of the Work, the Contractor shall provide Builder's Risk Insurance on a multiple peril form in the full amount of the total construction and material contract. Such insurance shall contain an appropriate rider to include as Additional Named Insureds, the Owner, the Engineer and his consultants, and each of their officers, employees and agents, all subcontractors, the equipment contractors and all of their subcontractors on the construction premises. Such insurance may have a deductible clause but the deductible amount shall be borne by the Contractor and shall not exceed \$1,000.00.

The Builder's Risk Insurance required herein shall apply to projects involving construction of structures and building only. The requirements of this section shall be waived on projects involving only underground utilities, grading, street improvements and similar construction work, but any damage or loss to property shall be the sole responsibility of the Contractor until final acceptance of the Work.

#### **SGC 6.06 WAIVER OF RIGHTS**

Paragraph 6.06 of the General Conditions shall be deleted in its entirety.

#### **SGC 7.02 LABOR; WORKING HOURS**

Add the following to 7.02.B of the General Conditions to read as follows:

Working hours shall be restricted to the hours of 7:00 a.m. to 8:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays with permission from the City Engineer. No work will be allowed on Sundays or Federal Holidays.

#### **SGC 7.06 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

At the end of the paragraph 7.06.O.2 add the following:

In accordance with Minnesota Statute 471.425, the Contractor shall pay any subcontractor within ten days of the Contractor's receipt of payment from the municipality.

#### **SGC 7.10 LAWS AND REGULATIONS**

Insert paragraph 7.10.D after 7.10.C: DATA PRACTICES ACT

The Contractor must comply with the Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, as it applies to (1) all data provided by the Owner pursuant to this Agreement, and (2) all data, created, collected, received, stored, used, maintained, or disseminated by the Contractor pursuant to this Agreement. The Contractor is subject to all the provisions of the Minnesota Government Data Practices Act, including but not limited to the civil remedies of Minnesota Statutes Section 13.08, as if it were a government entity. In the event the Contractor receives a request to release data, the Contractor must immediately notify the Owner. The Owner will give the Contractor instructions concerning the release of the data to the requesting party before the data is released. Contractor agrees to defend, indemnify, and hold the Owner, its officials, officers, agents, employees, and volunteers harmless from any claims resulting from Contractor's officers', agents', owners', partners', employees', volunteers', assignees' or subcontractors' unlawful disclosure and/or use of protected data. The terms of this paragraph shall survive the cancellation or termination of this Agreement.

## SGC 7.12 SAFETY AND PRECAUTION

Add a new paragraph immediately after 7.12.G of the General Conditions, which is to read as follows:

The Contractor shall provide all necessary temporary barricades, fences and other protection as required for the proper execution of the work and for the protection of his employees, employees of the Owner, other construction personnel, and the general public according to all Federal, State, and Local regulations. This may include increased signing as necessary. The Contractor may need to furnish, erect, and maintain lights to provide a safe work environment according to all state and federal codes. All utility trenches shall be backfilled at the end of each working day and driveway access provided to individual residences to the satisfaction of the Engineer. ***The Contractor shall immediately call "911" if a gas utility line is struck or damaged.***

## SGC 7.18 INDEMNIFICATION

Add the following as a subparagraph of 7.18.C.2 of the General Conditions to read as follows:

2. Provided however, if the claim, damage, loss or expense referred to in Paragraph 7.18A results from failure of the ENGINEER to discover a condition or object which is underground or otherwise not reasonably observable by the ENGINEER, and if said failure to discover is apparent to the CONTRACTOR in that the said condition or object is omitted from the ENGINEER'S maps, drawings, opinions, reports, surveys, change orders, designs or specifications, then the CONTRACTOR shall be liable for indemnification of ENGINEER under Paragraph 7.18 for damage resulting from said failure to discover unless CONTRACTOR shall have notified ENGINEER of the existence and location of such condition or object prior to the occurrence of such damage and in sufficient time of ENGINEER to have provision therefore. Further, in the event neither ENGINEER nor CONTRACTOR discover such condition or object, CONTRACTOR shall bear the burden of indemnification under Paragraph 7.18.

## SGC 8.01 RELATED WORK AT SITE

Add the following to 8.01.C of the General Conditions to read as follows:

The Contractor shall cooperate with all parties to facilitate the prompt completion of all contracts.

Add the following immediately after 8.01.D of the General Conditions, which is to read as follows:

- E. The Contractor is hereby advised that the following work may be performed on the site by others during the contract time.
  1. The individual lot owners or their agents may be site grading and/or constructing buildings on the lots adjacent to the proposed streets.
  2. Private utility companies may be installing and/or relocating underground facilities on or adjacent to the project.
- F. If Owner performs work for the Contractor, the Contractor must pay Owner for such work with no deduction in Contract amount.

## SGC 9.11 EVIDENCE OF FINANCIAL ARRANGEMENTS

Paragraph 9.11 of the General Conditions shall be deleted in its entirety.

## **SGC 10.02 VISITS TO SITE**

Add a new paragraph immediately after 10.02.B of the General Conditions, which is to read as follows:

- C. Throughout the construction phase, regular weekly meetings will be held by the Engineer on site to review progress and to discuss items necessary for an orderly completion of the project. The weekly construction meetings shall include the Owner, Engineer and Contractor. The Contractor's representative must be able to make decisions for the Contractor pertaining to the project. All project conflicts shall be brought to these meetings, including requests for additional payment. Meeting minutes will be provided to all participants as a record of the meeting.

## **SGC 10.08 LIMITATION ON ENGINEER'S AUTHORITY AND RESPONSIBILITIES**

Add the following at the end of the first sentence of paragraph 10.08A:

Insofar as the subject matter of any pertinent claim, dispute, or other matter falls within the realm of the technical expertise of ENGINEER, ENGINEER shall not render any decision on any claims, disputes, or other matters the subject matter of which, at ENGINEER'S sole discretion, requires legal, rather than technical interpretation.

## **SGC 11.03 UNAUTHORIZED CHANGES IN WORK**

Add the following new paragraphs immediately following Paragraph 11.03.A:

- B. Except as specifically authorized in writing by the Engineer at the time additional work is done beyond the original scope of the Contract Documents, the Contractor shall make no claims for additional compensation. The Contractor's plea of ignorance of foreseeable conditions which will create difficulties or hindrances in the execution of the Work will not be acceptable to the Owner as an excuse for any failure of the Contractor to fulfill the requirements of the Contract Documents, and shall not be a basis for the Contractor's claim for additional compensation.
- C. Any discrepancies in or conflicts between the items described in these Contract Documents must be submitted in writing to the Engineer for adjustment prior to proceeding with the Work as any claims for additional compensation to achieve compliance with the requirements of those items will not be allowed or considered.

## **SGC 11.06 CHANGE PROPOSALS**

Delete Paragraph 11.06.A in its entirety and replace with the following

- A. All change proposals shall follow the requirements of MnDOT 1403, Notification for Contract Revisions.

## **SGC 12.01 CLAIMS**

The first sentence of Paragraph 12.01.B of the General Conditions shall be deleted and the following inserted in its place:

Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to the Engineer and the other party to the Contract promptly but in no event later than ten (10) days after the start of the event giving rise thereto.

Add the following paragraphs to 12.01F of the General Conditions to read as follows:

Except as specifically authorized in writing by the Engineer at the time additional work is done beyond

the original scope of the Contract Documents, the Contractor shall make no claims for additional compensation. The Contractor's plea of ignorance of foreseeable conditions which will create difficulties or hindrances in the execution of the work will not be acceptable to the Owner as an excuse for any failure of the Contractor to fulfill the requirements of the Contract Documents, and shall not be a basis for the Contractor's claim for additional compensation.

Any discrepancies in or conflicts between the items described in these Contract Documents must be submitted in writing to the Engineer for adjustment prior to proceeding with the work as any claims for additional compensation to achieve compliance with the requirements of those items will not be allowed or considered.

#### **SGC 13.01B.5F COST OF THE WORK**

Paragraph 13.01B.5F of the General Conditions shall be deleted in its entirety.

#### **SGC 13.01C COSTS EXCLUDED**

Insert the following after Paragraph 13.01C.5:

6. Sales, consumer, use and other similar taxes related to the Work for which CONTRACTOR is liable.

#### **SGC 13.03 UNIT PRICE WORK**

Delete paragraph 13.03.E in its entirety and insert the following in its place.

There will be no adjustment in unit price for increased or decreased quantities. In addition, the Owner reserves the right to reduce certain quantities or delete certain items from each section of the bids as the Owner sees fit, either before or after the Award of Contract. There will be no additional compensation due to remobilization of equipment as necessary to complete punch list items or other items not completed by the Contractor. There will be no additional compensation due to restocking charges for materials not used on the project.

#### **SGC 14.02 TESTS AND INSPECTIONS**

Add the following paragraphs to 14.02.A of the General Conditions to read as follows:

The Contractor shall provide a minimum forty-eight (48) hour notice to the Observer for any testing that must be observed or accomplished by someone other than the Contractor's personnel. All final tests and inspections shall be performed under the observation of the Observer.

All tests on material to be placed shall be completed prior to the placing of any material. Tests shall be made in accordance with the American Society for Testing and Materials (ASTM) standard and tentative specifications that apply, except as otherwise specified.

Signed copies of all reports on tests shall be sent at once to the Owner, Engineer and Contractor. Inspection and testing shall in no way relieve the Contractor or supplier from the responsibility of furnishing materials and workmanship in accordance with the plans and specifications.

#### **SGC 15.01 PROGRESS PAYMENTS**

Delete Sub-paragraph 15.01.B.1 in its entirety and insert the following:

1. At least 20 days prior to the City Council meeting in which request for payment will be considered, Contractor shall submit to Engineer for review an application for payment filled out and signed by the Contractor covering the Work completed as of the date of the Application and accompanied by such supporting

documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the material and equipment free and clear of all Liens, and evidence that 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 the Owner. City Council meetings are held on the 1<sup>st</sup> and 3<sup>rd</sup> Mondays of each month.

Amend paragraph 15.01B.3 of the General Conditions to read as follows:

The amount of retainage with respect to all progress payments will be as follows:

|                                      |                |
|--------------------------------------|----------------|
| Minnesota Contractors                | 5%             |
| Exempt Non-Minnesota Contractors     | 5%             |
| Non-Exempt Non-Minnesota Contractors | 5% + 8%* = 13% |
| *State Surety Deposit                |                |

Non-Minnesota Contractors are advised to file Form SDE with the Minnesota Department of Revenue to determine their exemption status.

No reduction in retainage will be allowed until final acceptance of entire project, unless approved by the Engineer.

Delete paragraph 15.01.D.1 in its entirety and replace with the following paragraphs:

1. Thirty days after presentation of the Application for Payment to owner with ENGINEER'S recommendation, the amount recommended (subject to the provision of paragraph 15.01.C) will become due and when due will be paid by OWNER to CONTRACTOR, unless extenuating circumstances exist which would preclude such payment by OWNER to CONTRACTOR. If such extenuating circumstances exist, then payment shall be made within forty-five (45) days after OWNER receives presentation of the Application for Payment.

2. Pursuant to Minnesota Statute 471.25, Subdivision 4a, the Contractor must pay any subcontractor within ten (10) days of the Contractor's receipt of payment from the City for undisputed services provided by the subcontractor. The Contractor must pay interest of one and one-half percent (1 ½ %) per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100.00 or more is \$10.00. For an unpaid balance of less than \$100.00, the Contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from the Contractor shall be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

#### **SGC 15.05 FINAL INSPECTION**

Add the following after the second sentence of paragraph 15.05.A of the General Conditions:

If, after such measures are taken, subsequent inspections by the Engineer reveal that any of the previously identified construction items remain incomplete or defective, the Engineer will again notify the Contractor in writing of the remaining construction items. All costs associated with any subsequent inspections in which said remaining particulars are revealed, will be documented by the Engineer and paid by the Contractor to the Owner.

#### **SGC 15.06 FINAL PAYMENT**

Add a new paragraph immediately after paragraph 15.06.A.3 of the General Conditions, which is to read as follows:

4. Before final application for payment is made for the work, the Contractor must make satisfactory showing of compliance with M.S.A. 290.92, which requires the withholding of state income taxes for wages paid to employees on this project. Receipt by the Engineer of a certificate of Compliance from the Commissioner of Taxation to the Owner will satisfy this requirement. The Contractor is advised that before such certificate can be issued, the Contractor must first place on file with the Commissioner of Taxation an affidavit that the Contractor has complied with the provisions of M.S.A. 290.92. The required affidavit form will be supplied by the Commissioner of Taxation, Centennial Building, St. Paul, Minnesota, on request.

Final payment will not be made until the Contractor shall have filed with the Engineer evidence in the form of an affidavit or such other evidence as may be required that all claims against him by reason of the Contract have been fully paid or satisfactorily secured. This shall be in the form of IC134 forms, paid-in-full final lien waivers from the Contractor, subcontractors, and major suppliers, and a Consent of Surety shall precede or accompany the final application for payment. In case such evidence is not furnished, the Owner may retain out of any monies due said Contractor sums sufficient to cover all lienable claims unpaid. In addition, a two (2) year maintenance bond is required from the Contractor. Said maintenance bond is to be dated to begin the date the City Council formally accepts the project.

#### **SGC 15.08 CORRECTION PERIOD**

Amend the first sentence of paragraph 15.08.A of the General Conditions to read as follows:

If within two (2) years after the date of final acceptance of the project by the Owner; or such longer period of time as may be prescribed by Laws or Regulations; or by the terms of any applicable special guarantee required by the Contract Documents; or by any specific provision of the Contract Documents, any Work that is found to be defective, or if the repair of any damages to the land or areas made available for the Contractor's use by the Owner or permitted by Laws and Regulations as contemplated in paragraph 6.01.A is found to be defective, the Contractor shall promptly, without cost

to the Owner, and in accordance with the Owner's written instructions:

- (i) Correct the defective repairs to the Site or such other adjacent areas;
- (ii) Correct such defective Work;
- (iii) Correct such defective Work or, if the defective Work has been rejected by the Owner, remove it from the Project and replace it with Work that is not defective, and
- (iv) Satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting there from.

With regards to any surface concrete work, including but not limited to sidewalks, curb, gutter, and driveway aprons within the project area, the Contractor shall assume full responsibility for any warranty work unless written approval is provided by the Owner releasing the Contractor from the responsibility for damages.

The intent of this provision is to release the Contractor from accepting monetary losses for destruction of concrete sidewalk, curb, gutter, and driveway aprons due to damages and circumstances out of the control of the Contractor. At no point during the two-year warranty period shall this relieve the Contractor's responsibility for correction of the defective work as stated in the preceding paragraph, or as caused by poor construction and defective materials on the concrete sidewalk, curb, gutter, and driveway aprons within the project area. The Owner or Engineer shall make the final determination of what material is defective within the project area at any point within the two-year warranty period.

#### **SGC 17.01 METHODS AND PROCEDURES**

Article 17.01, Methods and Procedures, of the General Conditions shall be deleted in its entirety and replaced with the following paragraphs:

"In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Contractor and the Engineer agree that all disputes between them arising out of or relating to this agreement shall be resolved, if possible, at the lowest possible staff level. If the dispute cannot be resolved between the Contractor and the Engineer staff, the presidents of the respective firms will meet to attempt to resolve the dispute(s). If resolution is not achieved, the dispute shall be submitted to non-binding mediation.

The rights and remedies available to the Contractor shall be limited to breach of Contract, and no other cause of action, including, without limitation, negligence, misrepresentation or other tort theory. The Owner or Contractor may assert any such breach of contract claim in any court of competent jurisdiction. Neither the Owner nor the Contractor shall be entitled to a jury trial in any such action. The right and remedies to the Owner hereunder shall be in addition to and shall not be constructed in any way as a limitation of any rights and remedies available to the Owner, which is otherwise available by law or contract, by special warranty or guarantee, or by other provision of the Contract documents. The provision of this paragraph shall be as effective as if repeated specifically in the contract documents in connection with each particular duty, obligation, right and remedy to which it may apply. All representations, warranties and guarantees made in the Contract documents shall survive final payment, termination or completion of this agreement.

No waiver or failure to enforce any part or provision of the contract documents, including but not limited to the change order process, shall be deemed to be waiver by the Owner of any subsequent default or breach of the same or any other part of provision contained herein, or right to enforce the same or any other part or provision contained herein."

## DIVISION S

I hereby certify that the Special Provisions for roadway construction (Division S) were prepared by me or under my general supervision, in accordance with the procedures adopted by the Minnesota Department of Transportation, and that I am a duly licensed professional engineer under the laws of the State of Minnesota. These are based on the approved, Department of Transportation "Special Provisions for Roadway Construction (Division S), December 19, 2025 Edition," except as modified below. The original, certified special provisions are on file in the Central Office of the Commissioner of Transportation.

Signature on file

Michael Beer

Assistant Commissioner, Engineering Services

Lic. No. 25792

**Ritter Farm Trailhead & Downtown Lakeville Gateway – City of Lakeville**

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## **Modification Statements**

Vertical change lines have been added to indicate content that has been modified from the original, certified special provisions December 19, 2025 Edition.

- Change lines are in the right margin bordering paragraphs with modification(s). The change line borders the whole paragraph, even if only one line in the paragraph has been modified.
- For tables, modification(s) have a heavy border around the modified cells.

### ***Professional Engineer's Certification Statement***

I hereby certify that Special Provisions, Division S, were prepared or modified by me or under my direct supervision in accordance with the procedures adopted by the Minnesota Department of Transportation and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: Taylor O Olson

Typed or Printed Name: Taylor Olson, PE Date: 03/27/2026 License Number: 57274

### ***Landscape Architect's Statement***

I hereby certify that Special Provisions, Division S, were prepared or modified by me or under my direct supervision in accordance with the procedures adopted by the Minnesota Department of Transportation and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota.

Signature: Candace Amberg

Typed or Printed Name: Candace Amberg, PLA Date: 03/27/2026 License Number: 40646

**S-1 CONTACT INFORMATION**

INITIAL 03/28/25

SP2025-1

Direct questions about this Project, including pre-bid questions, to Taylor Olson at 701-840-0459 and [tolson@wsbeng.com](mailto:tolson@wsbeng.com)

**S-2 PROTECTION OF FISH AND WILDLIFE RESOURCES**

INITIAL 03/28/25

SP2025-5

S-2.1 Compliance with Environmental Documentation

The Project is located in an area with protected fish & wildlife resources and/or threatened & endangered species. The Contractor must protect these resources in accordance with State and Federal regulations and must implement all applicable avoidance and minimization measures (AMMs).

A POLLINATOR PROTECTION

Contractor must not apply insecticides or fungicides.

Contractor must minimize the use of herbicides. If herbicides are to be used, Contractor must apply herbicides via spot treatments. Contractor must not apply herbicides through broadcast applications, including but not limited to, aerial applications or vehicle mounted sprayers.

Contractor must contact the Department's wildlife ecologist ([protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us)) if exceptions are requested.

B BUMBLE BEE PROTECTION

The Project is located in an area inhabited by the endangered rusty-patched bumble bee. The Contractor must ensure all operators, employees, and Contractors working in areas of known or presumed protected bumble bee habitat are aware of environmental commitments and avoidance and minimization measures (AMMs) to protect both bumble bees and their habitat. The Contractor must notify Project Subcontractors during the preconstruction meeting.

Contractor must immediately report (within 24 hours) all bumble bee nest sightings, to the Department's wildlife ecologist at [protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us). No work within 25 feet of the nest is allowed until species-level identifications are made.

C BAT PROTECTION

The Project is located in an area inhabited by one or more protected bat species. The Contractor must ensure all operators, employees, and Contractors working in areas of known or presumed bat habitat are aware of environmental commitments and avoidance and minimization measures (AMMs) to protect both bats and their habitat. The Contractor must notify Project Subcontractors during the preconstruction meeting.

Contractor must direct temporary lighting, if used, away from wooded areas during the bat active season (April 15 to October 31, inclusive).

Contractor must immediately report (within 24 hours) all bat sightings, live or dead, to the Department's wildlife ecologist at [protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us) <https://www.dot.state.mn.us/environment/wildlife.html>.

D BALD EAGLE PROTECTION

Bald Eagles are protected by the Bald and Golden Eagle Protection Act. No Bald Eagle nests are known within the project limits. However, if a Bald Eagle nest is discovered during Project activities, Contractor must stop Work and immediately report Bald Eagle nests to the Department's wildlife ecologist at

[protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us). Contractor must not Work within 300 feet of a Bald Eagle nest at any time. This includes foot traffic, vehicle parking, and/or equipment or material staging.

Contractor must not work within 300 ft of a Bald Eagle nest at any time. This includes foot traffic, vehicle parking, and/or equipment or material staging.

Contractor must immediately report all Bald Eagle nests to the Department’s wildlife ecologist at [protectedspecies.dot@state.mn.us](mailto:protectedspecies.dot@state.mn.us).

E MIGRATORY BIRD PROTECTION

E.1 Soil Stockpiles

The Contractor must protect soil stockpiles when any surface remains unused for 72 hours or more. To prevent birds from nesting, the Contractor must either cover the surface with fabric or tarps or grade the surface to a slope no steeper than 65 degrees.

**S-3 (1103) DEFINITIONS**

**INITIAL 03/28/25**

SP2025-12

S-3.1 Delete and replace the definition for “Engineer” in 1103, “Definitions,” with the following:

**Engineer**

A Department engineer authorized as the Department’s representative responsible for the engineering supervision of the Work and delegated with those duties and authorities defined in the Contract. The Contract may redefine the ‘Engineer’ as a specific Department engineer (i.e. Concrete Engineer, Bridge Engineer, Materials Engineer, Traffic Engineer, Roadway Engineer, etc.) with jurisdiction over the engineering details of specific construction items; however, the Engineer is the main point of contact for the Contractor and the Contractor must copy the Engineer on all correspondence between the Contractor and other Department representatives.

**S-4 (1505) COOPERATION BY CONTRACTORS**

**INITIAL 03/28/25**

SP2025-34

S-4.1 Add the following to 1505, “Cooperation by Contractors:”

The Contractor shall coordinate Work and cooperate with the holders of those current and future separate Contracts, as required by 1505, “Cooperation by Contractors.”

The City of Lakeville has taken bids on the following Project: Lake Marion Trail Project and City of Lakeville Downtown ADA Improvements

**S-5 (1507) UTILITY PROPERTY AND SERVICE**

**INITIAL 03/28/25**

SP2025-36

- S-5.1 Delete and replace the second to the last paragraph of 1507.1, “Utility Property and Service, General,” with the following:

All utilities related to this Project are classified as "Level D," unless the Plans specifically state otherwise. This utility quality level was determined according to the guidelines of CI/ASCE 38-22, entitled to “Standard Guideline for Investigating and Documenting Existing Utilities.”

- S-5.2 Add the following to 1507.2, “Notification:”

(3) The Contractor shall acquire a Positive Response confirmation from the Department for all proposed excavations when the Gopher State One Call has indicated that proposed excavations may affect the Department’s utilities. The Contractor may call the Department’s Electrical Services Section (ESS) Dispatch Locating to confirm the status of Department-owned Utility infrastructure. Contractor can contact the Department’s Electrical Services Section (ESS) Dispatch Locating at (651) 366-5750 or (651) 366-5751. The Contractor shall be responsible for all damage to Department-owned Utility infrastructure if the Contractor did not acquire a Positive Response confirmation from the Department.

- S-5.3 Add the following to 1507.2, Notification:”

The Work under this Contract will affect City of Lakeville utilities such as storm sewer, sanitary sewer, and water supply. Those affected utilities are included in the Plans for adjustment or relocation. The Contractor shall notify Jon Nelson, Assistant City Engineer at 952-985-4502, before the date the Contractor intends to start Work. The Contractor shall give that office any information necessary for the responsible authorities to make suitable arrangements.

**S-6 (1602) NATURAL MATERIAL SOURCES**

**INITIAL 03/28/25**

SP2025-39

- S-6.1 Add the following to 1602, “Natural Material Sources:”

The expansion of any existing natural material sources, or the creation of new natural material sources, is subject to the requirements of the Farmland Protection Act of 1981 (FPPA or the ACT). Contractor is responsible for coordination to comply with FPPA. Contact the Natural Resources Conservation Service (NRCS) office for the County in which the source is located for further information.

**S-7 (1606) STORAGE OF MATERIALS**

**INITIAL 03/28/25**

SP2025-41

- S-7.1 Add the following to 1606, “Storage of Materials:”

If the Contractor elects to crush excavated Materials within the Project Limits, the quantity of crushed Material will be limited to only the quantity required for this Project. Unless approved in writing by the Engineer, the Contractor must not crush Materials other than those found within the Project Limits or remove crushed Material from the Project Limits.

The Contractor may request to use space outside of the Project Site, and within the Department’s Right-of-Way, for storing materials or placing mobile production plant and Equipment. The Contractor shall submit, in writing, to the Engineer for approval. The submittal shall include the proposed location, description of items that will be stored, erosion control plans, restoration plans, and dates that the space will be used. The use of the additional space and restoration to an acceptable condition will be at no additional cost to the Department. The use of the space shall be approved, in writing, by the Engineer prior to any use. The Engineer may revoke this approval, at any time.

**S-8 (1701) LAWS TO BE OBSERVED (WETLANDS)**

**INITIAL 03/28/25**

SP2025-42

S-8.1 Add the following to 1701, “Laws to be Observed:”

If the Contractor operations involve the excavation and/or disposal of Material off Department Right-of-way, the Contractor is advised of the following:

MN Statutes Sections 103G.2212 and 103G.241 stipulate that an agent or employee of another may not:

- 1) drain, excavate, or fill a wetland, wholly or partially; or
- 2) construct, reconstruct, remove, or make any change in any reservoir, dam, or the course, current, or cross-section of any public water.

Unless a signed statement from the property owner is obtained stating that any permit or Wetland Replacement Plan required for the Work is in place, or that a permit or replacement plan is not required; and this statement is mailed to the appropriate office with jurisdiction over the wetland or public water prior to initiating the Work.

The "Landowner Statement and Contractor Responsibility For Work in Wetlands or Public Waters" can be found at <http://www.bwsr.state.mn.us/wca-forms-and-templates>. The Contractor shall provide the Engineer with a copy of the completed "Landowner Statement and Contractor Responsibility For Work in Wetlands or Public Waters" for the excavation and/or disposal site prior to initiating the Work.

**S-9 (1701) LAWS TO BE OBSERVED (CULTURAL RESOURCES – FEDERALLY AND STATE FUNDED)**

**INITIAL 03/28/25**

SP2025-45

S-9.1 Add the following to 1701 “Laws to be Observed:”

A For any Project that the Department funds or conducts, or that is located in Department Right-of-way, including owned or leased Natural Materials Resources, the following terms will apply:

A.1 The Department is responsible for obtaining a Cultural Resources Unit (CRU) findings letter.

A.2 Contractor will notify the Engineer if the Contractor intends to use any material from a proposed excavation area on land controlled by the Department. The Engineer must request a review from the Department’s CRU before allowing a Contractor to use any material from a proposed excavation area on any land controlled by the Department. The review may take 60 Calendar Days after receipt of request, including up to 45 days for tribal consultation when necessary. If the Department’s CRU determines that a survey is needed, the review period may be even longer. Contractor is responsible for ensuring that such

**Ritter Farm Trailhead & Downtown Lakeville Gateway – City of Lakeville**

reviews do not affect the timely completion of the Project, and for any delays due to the length of the review. Contractor may not base a claim for damages due to delay of Contract on the length of the review.

B If the Contractor selects the excavation and disposal of material from locations other than the Department’s Right-of-way, the following terms will apply:

B.1 A CRU findings letter is not necessary.

B.2 Contractor must comply with Minnesota Statutes § 307.08, Minnesota Private Cemeteries Act, if applicable.

C If any human remains are encountered within the Project limits, the Contractor shall immediately stop Work in the vicinity, notify the Engineer, and request suspension of Work near the discovery area, in accordance with 1803.3, “Temporary Suspensions.”

**S-10 (1701) LAWS TO BE OBSERVED – LOCAL ORDINANCES**

MnDOT 1701 is supplemented by adding the following:

The Contractor shall not construe anything in the Contract Documents to allow the Contractor to circumvent existing local ordinances that may impacts construction operations.

The Contractor shall limit noise to the extent as possible at all times. Air compressors shall be equipped with silencers and exhausts of all combustion engines shall be equipped with mufflers in accordance with current government regulations.

In accordance with City of Lakeville ordinances, working hours are Monday – Friday 7:00 a.m. – 8:00 p.m.

Work on Saturdays is allowed, Saturday working hours are 8:00 a.m. – 5:00 p.m.

Equipment and engine start up or operation may not occur outside of the working hours.

No work is permitted on Sundays or holidays unless approved by the City Engineer.

**S-11 (1707) PUBLIC CONVENIENCE AND SAFETY (BUS SERVICE)**

**INITIAL 03/28/25**

SP2025-48

S-11.1 Add the following to 1707, “Public Convenience and Safety:”

A The Contractor shall ensure that employees and Subcontractors do not display items such as, but not limited to, flags, banners, and symbols on the Project Site, that may disrupt the proper persecution of the Work, impede public safety, or create a distraction for the traveling public.

B Schmitty and Sons has bus service in the project area. The contractor shall notify the company prior to the start of the project as follows:

Dave Mohr

Operations Manager

22750 Pillsbury Avenue, Lakeville, MN 55044

952-985-7512

S-11.2 MnDOT 1707 is supplemented with the following:

The Contractor shall provide any barricades, fences or other means of protection necessary to properly execute the work and adequately protect the Contractor’s employees, employees of the Owner, employees of the Engineer, and members of the public according to federal, state, and local regulators. All utility trenches shall be backfilled at the end of each working day to the satisfaction of the Engineer.

All labor and materials necessary to comply with these provisions are incidental, and no payment shall be made.

**S-12 (1717) AIR, LAND, AND WATER POLLUTION**

**REVISED 09/26/25**

SP2025-51

S-12.1 Add the following to 1717.2, “Stormwater Management and Erosion Control:”

The Contractor shall not use recycled concrete aggregate (RCA) in temporary work such as causeways, staging areas, or stockpiles that will be in contact with surface water or groundwater. The Contractor shall:

- 1) Manage stormwater runoff from temporary work such as laydown areas, staging areas, and stockpiles that contain RCA. Prevent any discharge of water that is turbid or has a pH of greater than 8.5 or less than 6.0 outside of construction limits or into surface water.
- 2) Monitor runoff from temporary work containing RCA during every stormwater inspection. Check for pH and turbidity. Monitor more frequently if needed to maintain acceptable clarity and pH.
- 3) Provide a Site Management Plan showing how they will manage stormwater runoff, monitor the pH and clarity of runoff, and isolate crushed concrete from surface water and groundwater as described above.

**S-13 (1717) AIR, LAND, AND WATER POLLUTION (MPCA CONSTRUCTION STORM WATER PERMIT)**

**INITIAL 03/28/25**

SP2025-53

S-13.1 Add the following to 1717.2, “Stormwater Management and Erosion Control:”

D MPCA CONSTRUCTION STORM WATER PERMIT

The Contractor must complete the application for coverage under the State of Minnesota Construction Stormwater General Permit, MNR100001, which is part of the National Pollutant Discharge Elimination System (NPDES) and the State Disposal System (SDS) Program. This Construction Stormwater General Permit is administered by the Minnesota Pollution Control Agency (MPCA) and for the purpose of this provision will be referred to as the CSW Permit or simply the Permit. By completing the online CSW Permit application the Contractor becomes a co-permittee with the Department and must ensure compliance with the terms and conditions of the Permit that reference the “operator.” A copy of the Permit is available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html> or by calling 651-296-6300.

D.1 This Project requires a CSW Permit. The Department will initiate the on-line Permit application for this Project and share the application with the Contractor after Contract Award. The Service ID number for this Project is \_\_\_\_\_. The Contractor must complete the application through the electronic online process and pay for the Permit on this Project. The application fee is Incidental.

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The Contractor must follow the steps below to complete the CSW Permit application:

- (1) Create User ID account with MPCA E-services (if Contractor already has an account, skip to next step).
- (2) Provide the Contractor’s E-services user ID to the Engineer and request that they share the Service application for the Service ID listed above.
- (3) Wait to receive email from MPCA E-services that the permit is now shared.
- (4) Log into E-Services.
- (5) Select shared document.
- (6) Select Section 5 Contacts, click on the “2. Contractor” tab, and replace the MnDOT contact information with the Contractor’s contact information.
- (7) Navigate to Section 11 Certification by clicking the “Continue” button in sections 5 through 10.
- (8) Complete certification signature in Section 11.
- (9) Complete payment section in Section 12.

The Contractor must complete the application process.

The Contractor must submit a copy of the MPCA confirmation and a signed Permit Affidavit form with the Contract and Bond – this is a condition precedent to Contract approval. The Contractor is not authorized to perform any Project Work which disturbs soil or which involves Work in waters of the State until the Permit is in effect and the Department has received the required documentation.

D.2 Contractor must provide an Erosion Control Supervisor as per 2573.3, “Construction Requirements.” The Contractor is solely responsible for all inspections, maintenance, and records required in Section 11 of the Permit. 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.

Contractor must immediately notify the Engineer of 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 from the Department; or (2) will impact the design or requirements of the Contract documents or impact traffic.

D.3 The Contractor must use 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.

**Table SP1717-2  
NPDES Permit Requirements**

| <b>CSG Permit Requirements</b>  | <b>Cross-Reference within this Contract</b>   |
|---|---|
| Obtain Permit<br>Permit Compliance<br>Submit Notice of Termination                              | 1701, “Laws to be Observed;” 1702, “Permits, Licenses and Taxes;” and 1717, “Air, Land and Water Pollution;”<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit)  |
| Certified Personnel in Erosion / Sediment Control Site Management<br>Develop a Chain of Command | 1506, “Supervision by Contractor;” 1717, “Air, Land and Water Pollution;” and 2573, “Storm Water management;”<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit) |
| Certified Personnel in Erosion / Sediment Control Site installation                             | 2573, “Storm Water management”  |

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| <b>CSG Permit Requirements</b>  | <b>Cross-Reference within this Contract</b>  |
|---|--|
| Project / Weekly Schedule (for Erosion / Sediment Control)<br>Completing Inspection / Maintenance Log / Records | 1717, "Air, Land and Water Pollution;" and 2573, "Storm Water Management;"<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit)   |
| Project Specific Construction Staging   | The Plans;<br>1717, "Air, Land and Water Pollution;"<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit); and<br>(1806) Determination and Extension of Contract Time   |
| Temporary Erosion / Sediment Control  | The Plans;<br>2573, "Storm Water management;" , 2574, "Soil Preparation;" and 2575, "Establishing Vegetation and Controlling Erosion"  |
| Maintenance of Devices / Sediment removal<br>Removal of Tracked Sediment<br>Removal of Devices                  | The Plans;<br>1717.2, "Stormwater Management and Erosion Control;" 2573.3K, "Flocculants;" and<br>2573.3R, "Sign Installation;"<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit)  |
| Dewatering  | 2573.3A.6, "Dewatering and Pumping;" and 3875, "Water Treatment;"<br>May also require DNR Permit   |
| Temporary Work not shown in the Plans<br>Grading areas (unfinished acres exposed to erosion)                    | 1717, "Air, Land and Water Pollution;" 2573, "Storm Water management;" 2574, "Soil Preparation;" and 2575, "Establishing Vegetation and Controlling Erosion;"<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit),<br>2574.3.A.1 |
| Permanent Erosion / Sediment Control and Turf Establishment   | The Plans;<br>1717, "Air, Land and Water Pollution;" 2573, "Storm Water management;" 2574, "Soil Preparation;" and 2575, "Establishing Vegetation and Controlling Erosion;"<br>Special Provisions:<br>(1717) Air, Land, and Water Pollution (MPCA Construction Stormwater Permit)  |

**S-14 (1804) PROSECUTION OF WORK (ADA)**

**INITIAL 03/28/25**

SP2025-58

S-14.1 Add the following to 1804, "Prosecution of Work:"

**1804.3 ADA REQUIREMENTS**

Pedestrian facilities on this Project must be constructed according to Public Right of Way Accessibility Guidelines (PROWAG) <http://www.dot.state.mn.us/ada/pdf/PROWAG.pdf>. The appropriate pedestrian ramp details for each quadrant are included in the Plan. The Engineer may provide additional details to those provided in the Plan that meet PROWAG and MnDOT ADA Standards (<http://www.dot.state.mn.us/ada/pdf/MnDOT-ada-standards.pdf>) as the need arises and field conditions dictate.

A Designate a certified person to assess proposed sidewalk layouts at each site at the preconstruction meeting. Certification is obtained by passing MnDOT's ADA Construction Certification Course, with in the past 3 years. For class dates and locations please refer to the following link at: <http://www.dot.state.mn.us/ada/training.html>.

A minimum of one person per project must possess a valid ADA Construction Certification card anytime ADA work is being performed on the project. If work on electrical components is the only ADA work taking place on the project the electrician must have in their possession a current MnDOT Signals and Lighting Certification.

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ADA work includes: assessment of proposed sidewalk layouts at each site before work begins, determining and marking removal limits for work pertaining to pedestrian facilities, ADA related removals and grading, forming and finishing of concrete at pedestrian facilities, paving pedestrian crossings, placing bituminous pedestrian facilities, final grading, and pavement markings. Any ADA work not listed above can be added at the discretion of the Engineer. An ADA Certified person is not required on site if the only work being performed concerns electrical components such as traffic signals and Accessible Pedestrian Signal (APS ) push button installations.

- B Pedestrian facilities must be constructed to meet the following criteria:
- (1) Pedestrian Access Routes (PAR) must be constructed to meet the following:
    - (a) Minimum 4 feet width.
    - (b) A maximum cross slope of 2.0%.
    - (c) Vertical discontinuities must be less than 1/4 inches.
    - (d) Must provide positive drainage without allowing any ponding and maintain existing drainage flow patterns unless indicated otherwise in the Plan.
    - (e) All grade breaks shall be constructed perpendicular to the path of travel.
    - (f) Maximum 5% running slope unless adjacent roadway profile exceeds 5%.
  - (2) Landings are part of the PAR and must be constructed to meet the following:
    - (a) 4 feet by 4 feet minimum width and shall match full width of incoming PAR.
    - (b) Maximum slope of 2.0% in all directions.
    - (c) Required at all locations where the PAR changes directions or inverse running slopes are greater than 2.0%.
    - (d) Must be connected to the PAR.
    - (e) Shall be constructed as a single plane surface having no grade breaks.
  - (3) Ramps are part of the PAR and must be constructed to meet either of the following criteria:
    - (a) Longitudinal slopes less than 5% in the direction of travel requires no landing at the top of the ramp (unless the PAR changes direction).
    - (b) Longitudinal slopes between 5 - 8.3% in the direction of travel require a landing at the top of the ramp.

C The Contractor and the Engineer shall work together to construct all pedestrian facilities set forth in the plans and in 1804.3B above.

Before any ADA construction begins the Project Engineer will schedule and facilitate an onsite pre-activity meeting that shall consist of a project walk through with the Prime Contractor and the Concrete Flatwork Contractor's MNDOT ADA Construction Certified person. This pre-activity meeting should discuss and document potential issues, any known plan changes, potential discrepancies, and any modifications to the construction plan. The project team should discuss the ADA construction schedule and incorporate into the requirements of 1803, "Project Schedules," including the 2-week look ahead meetings for ADA activities. The discussion should include the sequence of removals and grading, utility placement and relocations, concrete curb and gutter, curb ramp,

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sidewalk, driveway placements, signals and lighting, temporary pedestrian access including both commercial and residential access, Temporary Pedestrian Access Routes/Alternate Pedestrian Access Routes, and traffic control staging. The Contractor should discuss what equipment, formwork, and materials are to be utilized on the project and how the pedestrian facilities will be constructed.

Notify the Engineer if the plan or site conditions do not allow PROWAAG and MnDOT ADA standards to be met, the Contractor shall consult with the Engineer to determine a resolution. The Engineer shall respond to the Contractor, in a timely manner (up to 24 hours), with a solution on how to proceed. The Contractor shall mitigate any potential delays by progressing other available work on the project.

Pedestrian facilities constructed that are not in accordance with the Plan, do not meet requirements in 1804.3B above, or do not follow the agreed upon resolution with the Engineer, will be corrected by the Contractor at no expense to the Department.

The following Hold Points will be utilized in the construction of pedestrian facilities:

(1) Removal Limits

The Contractor and the Engineer shall use the appropriate ramp, sidewalk, and driveway details in the Plan, and calculate the removal limits for the sidewalk and curb and gutter. If it is determined that the removal limits will exceed the plan removal limits by more than 10 feet and the plan removal limits are not adequate to meet PROWAG and MnDOT ADA Standards the Contractor shall consult with the Engineer to determine a solution. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may finish the removals.

(2) Curb and Gutter at Quadrants

Prior to pouring the curb and gutter at curb ramps the Contractor and the Engineer must verify:

- (a) that the curb and gutter will work with any vertical constraints (doorways, steps, bus stops, outwalks and landing areas).
- (b) zero height curb, and curb transitions will be located as shown in the Plans and will provide an adequate detectable edge as shown on *Standard Plan 5-297.250* (Sheet 4 of 6).
- (c) verify curb tapers are constructed at correct heights so that positive boulevard slopes and drainage is maintained away from landings and sidewalks, to the newly constructed curb and gutter sections.
- (d) gutter flow lines shall provide positive drainage, maintain existing drainage patterns including existing gutter inflows/outflows. The curb and gutter shall be constructed as detailed in the Plan with a defined flow line and have no vertical discontinuities over 1/4 inch. For required flow line corrections including curb line raises and curb ramp cross slope “tabling”, see *Standard Plan 5-297.250* (Sheet 6 of 6). Curb shall be poured at 3 percent inflow around the radius or at a minimum distance of 10 feet from any zero height curb section when machine placed. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.

(3) Curb and Gutter at Roadway Sections

Prior to pouring curb and gutter at roadway sections the Contractor must verify:

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- (a) proposed curb and gutter heights will work with existing roadway and shoulder slopes.
- (b) The Contractor shall verify prior to placing the pedestrian facilities that positive drainage is maintained within public Right of Way (RW), as well as maintaining existing off RW drainage. The Contractor shall check to ensure all top back of curb elevations will allow for adequate boulevard slopes, PAR slopes, and widths as shown on *Standard Plan 5-297.254* (Sheet 4 of 4) while maintaining vertically constrained match points (doorways, steps, bus stops, outwalks and landing areas).
- (c) The Contractor shall check all driveway locations and widths and conform to construction plans, Sidewalk & Driveway *Standard Plan 5-297.254* and Driveway Table for all driveway details including curb heights and curb tapers. Driveway curb sections and aprons shall be constructed to minimize changes in the sidewalk width, alignment, and profile. The Contractor shall consult with the Engineer to determine a resolution if any of these conditions cannot be met. Once the Engineer and the Contractor reach agreement on how to proceed, the Contractor may proceed with pouring the curb and gutter.
- (d) When curb ramps are adjacent to bituminous roadways the concrete curb and gutter and curb ramps including concrete flares shall be tied. Drill and grout of tie bars will be required as per 2302, "Concrete Pavement Rehabilitation," and in accordance with the details shown in *Standard Plan 5-297.250* (Sheet 6 of 6).

(4) Grading, Forming and Finishing

Foundation Preparation work shall consist of constructing all necessary Subgrade Preparation, Aggregate Base, and Grading as indicated in 2106, "Excavation and Embankment – Compacted Volume Method," 2112, "Subgrade Preparation," 2211, "Aggregate Base," *Standard Plans 5-297.250* (Sheet 6 of 6), and project plans. The testing for pedestrian facilities grading shall be in accordance with the Schedule of Materials Control.

After the curb and gutter has been correctly poured, and the Contractor has set the sidewalk forms, the Contractor shall verify prior to placing the curb ramps and sidewalks that positive drainage is maintained within public RW, as well as maintaining existing off RW drainage, and that all the requirements in 1804.3B above will be achieved.

(a) Ramps

In addition, the longitudinal slopes shown in the Construction Plans and the Standard Plan shall be utilized unless these conditions cannot be met. The starting point for setting the forms on the controlling ramp leg, landing, and sidewalk slopes should be the following:

Steep (S) = 7%

Flat (F) = 4%

Landing = 1%

Sidewalk Cross Slope = 1.5%

If any of these requirements cannot be met the Contractor shall meet with the Engineer to determine the best solution. Once the Engineer and the Contractor reach an

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agreement on how to proceed, the Contractor may proceed with the curb ramp and sidewalk pour.

(b) Landings

An initial landing is the first required landing of a pedestrian ramp. All initial landings required at the top of a ramped sloped surface (greater than 2% longitudinal slope), shall be formed and placed separately in an independent concrete pour. This does not include initial landings placed at roadway grade such as depressed corners, parallel ramps, rural flat landings, or flat cut-throughs. Secondary landings consist of all landings beyond the initial landing. These secondary landings do not require a separate landing pour. The Contractor shall verify initial landing alignments and elevations to ensure ramp slopes are correct prior to placing curb and gutter. At a minimum this must include string line verification or the setting of landing forms

(c) Driveways

Driveways with concrete aprons matching into concrete sidewalks shall form and place the apron independent of the concrete sidewalk placement. The Contractor shall consult with the Engineer if separate concrete placements for specific driveway locations must be placed monolithic to maintain project schedule or maintain usage of commercial driveways.

All subgrade preparation and grading for the driveways, including placement of select grading materials and aggregate base, shall be completed prior to constructing any concrete driveway flatwork including both concrete walk sections and concrete apron sections.

All necessary subgrade preparation and aggregate base placement for the entire ramp construction limit shall be done before the initial landing is constructed at each location.

D It shall be the responsibility of the Contractor, or Contractor's Surveyor if applicable, to lay out all proposed work at each intersection in accordance with the Plan and requirements listed in this Special Provision. The Contractor may confer with the Engineer for guidance in laying out the proposed work, but it will be the Contractor's responsibility to ensure the proposed work meets all the requirements of this Special Provision. This layout includes, but is not limited to placement of grade breaks, curb transitions, gutter flow lines, truncated dome placement, crosswalk marking placement, flares, landing limits, removal limits, driveway tie in limits, and ramp limits. It is important that the Contractor lay out this work properly to achieve the construction of a compliant pedestrian facility. The Department's surveyor will only stake points and elevations provided in the Plan. For custom designs, other than specific dimensions provided in the Plan, the Contractor shall be expected to scale dimensions from the Plan as needed to construct the facility. If scaled dimensions do not allow for a facility to be constructed to meet the requirements of this Special Provision, the Contractor shall follow the process listed in 1804.3C above. This layout work shall be incidental.

E The Contractor shall utilize measures and methods when working near existing buildings that will avoid damaging the building's face or structure. The contractor will be responsible for any damage to the building's face or structure, both below and above ground. Any damage resulting from Contractor's operations will be repaired at the Contractor's expense to the satisfaction of the Engineer.

F The Contractor shall sawcut all concrete curb ramp, sidewalk, and driveway contraction joints. The only exception to the saw cutting contraction joints requirements will be for tooling relief joints on large driveway placements, and long sidewalk placements to prevent random cracks, and for tooling joints on minor repairs.

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The Contractor shall snap chalk lines for contraction joint layouts and discuss with the Engineer the locations of all saw cutting, tooled contraction relief joints, and any modifications to Standard Plans.

The Contractor and Engineer shall coordinate and agree on all expansion joint layouts before any concrete placements.

The Contractor shall saw cut curb and gutter contraction joints within the PAR including contraction joints at zero-inch height curb locations.

G The Contractor will round all joints and edges with a 1/4 inch radius grooving or edging tool within the PAR where minor tooling is permitted. This requirement includes all curb and gutter joints at zero inch height curb sections at curb ramps. Contraction joints shall extend to at least 30 percent of walk thickness. The Contractor shall also have the option of providing saw cuts to construct the sidewalk joints. If saw cutting, provide 1/8 inch wide contraction joints within the PAR, including all curb and gutter joints at zero inch height curb sections. When greater than 50 feet of continuous sidewalk runs are constructed the Contractor shall saw cut all joints. This work shall be incidental.

The top grade break of walkable flares needs a visual joint to indicate a change in grade. To eliminate the use of excessive contraction joints in the quadrant the visual joint shall meet 2521.3D.2, "Joint Construction," except the depth requirement is reduced to 1/4 inch.

All saw cutting, tooling, expansion joint material, and separation joint material shall be incidental to payment of curb and gutter, sidewalks, driveways, curb ramps, and landings.

The Contractor shall use an approved 1/4 inch Separation Material Type F at back of curb in sections where there is concrete boulevard or driveways as per *Standard Plans 5-297.254* (Sheet 3 of 4). Separation material shall match the full height dimension of adjacent concrete.

The Contractor shall use an approved 1/2 inch expansion material meeting MNDOT Specification 3702 type A- E between the outside edge of sidewalk and existing building or structures. No expansion or separation material shall not be placed in the longitudinal joint between the sidewalk and boulevard joint, unless it is necessary to provide expansion at fixed structures.

At locations where sidewalk is adjacent to existing buildings, extend walk up to the edge of building and place 1/2 inch preformed joint filler 1/2 inch lower than top of walk whenever possible. Furnish and install Backer Rod of appropriate diameter when joints are 1/4 inch wide or greater, clean surfaces and apply approved Silicone Joint Sealant to flush with top of walk. If the transverse sidewalk and boulevard joint layouts cannot be aligned, use approved preformed joint filler with a maximum 1/8 inch width and place between the sidewalk and boulevard to prevent contraction joints from migrating into the adjacent concrete panels.

H The minimum continuous and unobstructed clear width of a Pedestrian Access Route shall be 4.0 feet. All new or reconstructed sidewalk widths shall match or exceed in place sidewalk and in no case shall it be less than 5.0 feet in width except at locations where obstructions cannot be moved or at driveways where slopes exceed the maximum allowable grades. The cross slope of the sidewalk or shared use path shall not exceed 2%, and shall be measured perpendicular to the path of travel across the entire surface width of the sidewalk or shared use path. Curb ramps should match proposed sidewalk PAR width and shall match full shared use path widths. Whenever possible, the entire landings should be placed in a single concrete placement. If this is not possible due to construction staging, follow requirements for reinforcement bar placement and tie adjacent landings together.

In areas where the sidewalk is to be constructed around fixed structures and the grade has been changed, the sidewalk shall be finished around these structures to the satisfaction of the Engineer at no additional cost.

I Longitudinal joint reinforcement- Concrete sidewalks and trails with one or more unrestricted edges that are greater than 7 ft. wide for 4-inch concrete walk, and greater than 10 ft. wide

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for 6-inch concrete walk shall be constructed according to Concrete Walk Adjacent to Turf detail per *Standard Plan 5-297.254* (Sheet 3 of 4).

4-inch concrete walk that requires longitudinal joint reinforcement shall be constructed monolithic as a full width concrete placement using cast in place tie bars.

6-inch concrete walk that requires longitudinal joint reinforcement may use drill and grout or cast in-place tie bars for multiple adjacent concrete placements.

Place tie bar steel to the depth and location shown on the plans. Do not place tie bars within 1' of transverse joint over transverse contraction joints.

Architectural elements such as brick pavers, concrete stamping, and multiple colored concrete placements shall be kept outside the curb ramps and landing areas. Any architectural elements that do not maintain a consistent flat smooth surface shall not be used within the PAR.

J All pedestrian signal systems should be installed as shown in the Plan and must be constructed to meet the following criteria. The Contractor shall verify that the proposed push button locations will meet all of the following criteria before proceeding with the installation of the pedestrian push button system:

- (1) Pedestrian push buttons shall be oriented with the button facing towards the intersection and the button face placed parallel to the outside edge of the crosswalk.
- (2) Pedestrian push buttons shall be a minimum of 4 feet and a maximum of 10 feet from the back of curb/edge of roadway, but may be placed 1.5 feet to 4 feet from the back of curb/edge of roadway if mounted on a signal pole as indicated in the Plan or as approved by the Engineer.
- (3) Pedestrian push buttons shall be located at the outside crosswalk edge and shall be no more than 5 feet offset from the projected outside edge of the crosswalk/ detectable warnings.

Pedestrian push buttons shall be a minimum of 10 feet apart

- (4) The maintenance access route (MAR) is needed for mechanical removal of snow and ice. A maintenance access route is only required on the same route as the PAR. At quadrants, the MAR should be a paved surface but does not need to meet the PAR cross slope criteria.

The MAR follows PAR alignment and provides additional clear distance between raised obstacles such as push button stations, electrical foundations (signal, lighting, or cabinet), buildings, V curb, utility poles, sign posts, etc.

The MAR is defined as a 6 foot minimum clear width for sidewalks and 10' minimum clear width for shared use paths.

- (5) Each pedestrian push button shall have a landing immediately adjacent to the push button face with minimum dimensions of 4 feet by 4 feet and a maximum slope of 2.0% in all directions. Center the push button on the edge of landing if possible to do so without violating any of the requirements listed in this Special Provision. The landing must be connected to the Pedestrian Access Route.
- (6) All new hand holes shall be placed outside of the PAR, inclusive of ramps and landings.

The push buttons shall be mounted at a height of 42 inches as indicated in the Plan, and shall have a 10 inch maximum side reach. Every effort should be made to reduce the side reach distance to the least amount possible.

(7) Crosswalk pavement markings shall be striped in a straight alignment between the outside edges of the detectable warnings from the corner closest to the roadway edge. Markings shall be placed in a continuous straight line of direction unless the crosswalks are shown in the plan to be non-continuous or “kinked” at a median refuge island. In the cases of a kinked crosswalk, 2 push button stations should be used with the button faces placed parallel to the outside edge of each crosswalk.

(8) The Contractor shall maintain all working points marked by the Department’s surveyor and use the working points to lay out push button locations in accordance with the Plans and Special Provisions.

If these conditions cannot be met, the Contractor shall consult with the Engineer to determine a resolution per 1804.3C above. Once the Engineer and the Contractor reach an agreement on how to proceed, the Contractor may proceed. If the Contractor constructs pedestrian push button systems or pedestrian facilities which do not meet the criteria or the agreed upon resolution with the Engineer, the Contractor will be responsible for correcting the deficiencies with no compensation paid for the corrective work.

The Contractor must adhere to the following practices:

(1) All push button station bases shall be installed using a breakaway pedestal base, see Typical APS Pedestrian Push Button Location and MnDOT Approved Products List. The pedestal base shall be fastened to the station foundation using 4 5/8 inch (UNC) x 7 1/2 inch stainless steel anchor rods. The push button station foundation shall be constructed as part of the sidewalk by increasing the sidewalk dimension to a 12 inch minimum thickness and an 18 inch minimum diameter to top of sidewalk surface. The push button station foundation shall be placed as part of the landing. All construction joints/grade breaks shall be located outside of foundation area and designated landing area.

(2) Signal pole foundations which are being constructed in or adjacent to sidewalk shall be constructed in accordance with the applicable *Standard Plate 8120* or *8126*. If a push button is proposed to be mounted on a signal pole, a MnDOT approved extension bracket shall be used. If a push button is proposed to be mounted on a signal pole, the APS push button shall meet the vertical, horizontal, and crosswalk skew requirements.

(3) All newly installed pedestal foundations when used as a push button station shall be constructed in accordance with applicable *Standard Plate 8112*. Concrete for new foundation shall be placed either with or after the landing concrete is placed, and the top of the foundation surface shall be 1/4 inch maximum higher than the top of the landing surface. If a push button is placed on a new or existing pedestal pole, the push button shall be installed using three APS push button spacers (Saddle Adaptors), and the APS push button shall meet the vertical, horizontal, and crosswalk skew requirements.

**S-15 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME**

**INITIAL 03/28/25**

SP2025-61

S-15.1 Add the following to 1806, “Determination and Extension of Contract Time:”

1806.5 Contract Time

A The Contractor must not perform Work that will restrict or interfere with traffic between 12:00 noon on the day before and 9:00 a.m. on the day after any consecutive combination of a Saturday, Sunday, and Holiday. The Contractor may request exceptions to this requirement. Exceptions must be approved in writing by the Engineer.

B The Contractor must complete all Work to meet the requirements of 1516.2, “Project Acceptance,” under this Contract before October 30, 2026.

- C The Contractor must complete all Work to meet the requirements of 1516.3, “Completion of the Work,” under this Contract within 90 Calendar Days of receipt of the Semi-Final Estimate in accordance with 1908.2, “Semi-Final Estimate Following Project Acceptance.”
- D The Contractor must substantial complete all work East of Dodd Boulevard prior to July 1, 2026.
  - D.1 Substantial Completion includes utility installation, placement of the final lift of bituminous wear course, sidewalk, pedestrian ramps, signage, pavement markings, restoration and cleanup.
- E The Contractor is prohibited from commencing work west of Dodd Boulevard prior to July 13, 2026.

**S-16 (1807) FAILURE TO COMPLETE THE WORK ON TIME (MONETARY DEDUCTIONS)**

**REVISED 06/27/25**

SP2025-65

S-16.1 Add the following to 1807, “Failure to Complete the Work on Time:”

- A The Department will assess the Contractor a Monetary Deduction in an amount equal to \$3,000 for each Calendar Day that any of the Work specified in S-15 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME remains incomplete after the expiration of the working period provided therefore.
- B The Department will assess the Contractor a Monetary Deduction in an amount equal to \$200 for each Calendar Day that any Work specified under 1516.3, “Completion of the Work,” are not met after the expiration of the 90 day period of the Semi-Final Estimate requirements.
- C Bidders are advised that in addition to the requirements of 1807, other Special Provisions may contain requirements for assessment of Monetary Deductions to this Contract.
- D The liquidated damages set forth in 1807, “Failure to Complete the Work on Time,” and any Monetary Deductions as set forth may apply equally, separately, and may be assessed concurrently.

**S-17 (1901) MEASUREMENT OF QUANTITIES**

**RESTORED 12/19/25**

SP2020-66.1

S-17.1 Delete and replace the first paragraph of 1901.6D, “Computerized Loader Bucket Scales,” with the following:

The Contractor may use computerized Loader Bucket Scales to weigh materials when the quantity of material included in the bid item list is 10,000 tons or less.

**S-18 (2021) MOBILIZATION**

**INITIAL 03/28/25**

SP2025-77

S-18.1 Delete and replace Table 2021.5-1 of 2021.5, “Mobilization, Basis of Payment,” with the following:

**Table 2021.5-1  
Mobilization Partial Payments**

| <b>When</b>  | <b>Contract Unit Price for mobilization is less than 10 percent of the total Contract amount, pay</b> | <b>Contract Unit Price for mobilization exceeds 10 percent of the total Contract amount, pay</b> |
|--|---|--|
| <b>Percent of Original Contract Amount Completed</b>   | <b>Percent of Mobilization</b>  | <b>Percent of Original Contract Amount *</b>   |
| 5  | 50  | 5  |
| 15   | 75  | 7.5  |
| 25   | 100   | 10   |
| 90   | 100   | —  |
| *If the Contract Unit Price for mobilization exceeds 10 percent of the total original Contract amount, the Department may withhold (on any partial estimate) the portion in excess of 10 percent until the Contractor earns at least 90 percent of the original Contract amount. |   |  |

S-18.2 Add the following to 2021.5, “Mobilization, Basis of Payment:”

The Engineer is authorized to pay actual costs for the payment and performance bond ahead of scheduled mobilization payments provided:

- The remaining amount to be paid for (2021) Mobilization is greater than the cost of the payment and performance bonds.
- The Contractor provides the actual invoice for the bonds.
- The Contractor provides proof of payment for the bonds
- The amount paid for the bonds is subtracted from subsequent mobilization payments.

**S-19            (2102) PAVEMENT MARKING REMOVAL**

**INITIAL 03/28/25**

SP2025-87

S-19.1 Add the following to 2102.3, “Pavement Marking Removal, Construction Requirements:”

Utilize either waterblasting or sandblasting Equipment for all pavement marking removal. Grinder type cutting heads shall not be used for pavement marking removal.

**S-20            (2104) REMOVING PAVEMENT AND MISCELLANEOUS STRUCTURES**

**INITIAL 03/28/25**

SP2025-90

S-20.1 Add the following to 2104.5, “Removing Pavement and Miscellaneous Structures, Basis of Payment:”

Sawing of sidewalks needed for removal will be included in removal pay item.

**S-21            (2108) GEOSYNTHETIC CONSTRUCTION MATERIALS**

**NEW 12/19/25**

SP2025-104.1

- S-21.1 Delete and replace the last paragraph of 2108.3C, “Geogrid,” with the following:  
  
Place Geogrid parallel to the centerline of the Roadway unless specified otherwise.

**S-22 (2360) PLANT MIXED ASPHALT PAVEMENT**

**REVISED 09/26/25**

SP2025-125

- S-22.1 Delete and replace Table 2360.1-1 of MnDOT 2360.1B(4) with the following:

**Table 2360.1-1  
Traffic Levels**

| Traffic Level  | 20 year Design ESALs    |
|--|-------------------------|
| 2 *  | < 1                     |
| 3  | 1 – < 3                 |
| 4  | 3 – < 10                |
| 5  | 10 – ≤ 30               |
| 6  | >30 (See SMA Provision) |
| NOTE: The requirements for gyratory mixtures in this section are based on the 20 year design traffic level of the Project, expressed in Equivalent Single Axle Loads (ESALs) $1 \times 10^6$ ESALs<br>* AADT < 2,300<br>   AADT > 2,300 to < 6,000 |                         |

- S-22.2 Delete and replace the first paragraph of MnDOT 2360.2E.5.a(2):

At least 7 Working Days before the start of asphalt production, submit the proposed job mix formula (JMF) in writing and signed by a MnDOT Certified Bituminous Mix Designer for each combination of Aggregates to be used in the mixture. Include test data to demonstrate conformance to mixture properties as specified in Table 2360.2-4, and 3139.2, “Graded Aggregate for Bituminous Mixtures, Requirements.” Use forms approved by the Department for the submission.

- S-22.3 Delete and replace the first paragraph of MnDOT 2360.2E.5.b with the following:

The Contractor may use the modified mixture design if testing shows that the Aggregates meet the requirements of 3139.2, “Graded Aggregate for Bituminous Mixtures, Requirements,” in the current construction season and if the MnDOT Certified Bituminous Mix Designer submitting the mixture design has at least 2 years’ experience in mixture design. The Department will not require mixture submittal.

- S-22.4 Delete and replace MnDOT 2360.2E.5.b(2) with the following:

**E.5.b(2) JMF Submittal**

At least 2 Working Days before beginning asphalt production, submit a proposed JMF in writing to the District Materials Laboratory signed by a MnDOT Certified Bituminous Mix Designer for each combination of Aggregates. For each JMF submitted, include documentation in accordance with 2360.2E.5.a, “Option 1 – Laboratory Mixture Design,” to demonstrate conformance to mixture properties as specified in Table 2360.2-4 and Table 3139.2-3. Submit the JMF on forms approved by the Department.

- S-22.5 Delete and replace the first paragraph of MnDOT 2360.2E.5.c with the following:

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A production mixture design is a new mixture design developed by modifying an existing approved mixture design using plant produced Material or laboratory produced Material. Production mixture designs are allowed only when approved by the Engineer and require an interactive process with the District Materials Laboratory to discuss the proposed modification. Only a MnDOT Certified Bituminous Mix Designer with at least 2 years' experience in mixture design can request a production mixture design.

S-22.6 Delete and replace the first paragraph of MnDOT 2360.2E.5.c(2) with the following:

At least 2 Working Days before beginning asphalt production with the Option 3 mix design begin the interactive process with the District Materials Engineer and submit a proposed JMF. Option 3 mix design submittals must be signed by a MnDOT Certified Bituminous Mix Designer. If directed by the District Materials Engineer submit an optimum asphalt content point for the proposed JMF (new design). If the Option 3 mix design is utilized for Aggregate substitution submit an optimum asphalt content point when directed by the District Materials Engineer. When an optimum asphalt content point is required include documentation showing the mixture is in accordance with 2360.2E.5.b, "Option 2 – Modified Mixture Design," and meets the requirements of Table 2360.2-4.

S-22.7 Delete and replace the second paragraph of MnDOT 2360.2F with the following:

Show the JMF limits for gradation control Sieves in accordance with Aggregate gradation broadbands shown in Table 3139.2-2, percent asphalt binder content, air voids, and adjusted AFT. If the Department issues a Mixture Design Report, this report only confirms that the Department reviewed the mixture and that it meets volumetric properties shown in Table 2360.2-4 and Table 2360.2-5. The Department makes no guaranty or warranty, either express or implied, that compliance with volumetric properties ensures Specification compliance regarding placement and compaction of the mixture, or any other requirements.

S-22.8 Delete and replace 2360.2G.2(1) with the following:

- (1) Conduct QA and verification testing

S-22.9 Delete and replace the first paragraph of MnDOT 2360.2G.3 with the following:

The Engineer will obtain at least one random verification sample per day per mix type from behind the paver or from the truck box. At least once per day, the Engineer will randomly determine when the mixture sample will be sampled. The Engineer will observe the Contractor sampling and splitting this QA-Verification sample and take immediate possession of the sample after it is split. The split of this sample, given to the Contractor, must be tested by the Contractor and will replace the next scheduled QC sample. Sample enough Material to accommodate retesting in case the samples fail.

S-22.10 Delete and replace the second paragraph of 2360.2G.4.a, "Personnel," with the following:

Provide QC technicians certified as a Bituminous Plant Tester meeting the requirements of the MnDOT Technical Certification Program for QC testing and a MnDOT Bituminous Mix Designer to make process adjustments. Provide at least one person per paving operation certified as a Bituminous Street Inspector.

S-22.11 Delete and replace the second paragraph of MnDOT 2360.2G.4.b with the following:

If coarse and fine Aggregate angularity are not evaluated for every QC sample retain the extracted gradation samples for the respective QC samples for additional testing. Keep the Aggregate samples in containers with field identification labels for a period of 10 Calendar Days. The Engineer will identify which extracted gradation sample is the verification companion and test for coarse and fine Aggregate angularity.

S-22.12 Delete and replace the first paragraph of 2360.2G.5.a, "Establishing an Ignition Oven Correction Factor, Laboratory Manual Method 1853 Appendix," with the following:

On the first day of production, for each mixture type, both the Contractor and the Department will establish an ignition oven correction factor from the produced mixture. If the Contractor chooses to determine their own extracted asphalt content, then the result must be sent to the Department by no later than 3 Working Days. If the Contractor’s extracted asphalt content is not received by the District Laboratory in 3 Working Days, then the Department’s extracted asphalt content will be used to determine the correction factor. Reestablish correction factors when:

S-22.13 Delete and replace the title of Table 2360.2-7 of 2360.2G.6.a, “Start-up,” with the following:

**Table 2360.2-7  
Start-Up Production Testing**

S-22.14 Delete and replace the title of Table 2360.2-8 of 2360.2G.6.b, “Production,” with the following:

**Table 2360.2-8  
Production Testing**

S-22.15 Delete and replace the second paragraph of 2360.2G.7.g, “Coarse Aggregate Angularity,” with the following:

The Contractor may test mixtures containing only virgin Aggregates from composite belt samples. Test mixtures containing RAP from extracted Aggregates taken from standard production samples.

S-22.16 Delete and replace the first paragraph of 2360.2G.7.h, “Fine Aggregate Angularity,” with the following:

Use *Laboratory Manual* Method 1206 to test the composite blend from Aggregates used in production of asphalt mixtures for Fine Aggregate Angularity (FAA) meeting the requirements of Table 3139.2-3. The Contractor may test mixtures that contain only virgin Aggregates from composite belt samples. Test mixtures that contain RAP from extracted Aggregates taken from standard production samples.

S-22.17 Delete and replace the second paragraph of MnDOT 2360.2G.13.a with the following:

A Certified MnDOT Bituminous Mix Designer will review the requested change for the Department. If the request meets the design requirements in Table 3139.2-2, Table 3139.2-3, and Table 2360.2-4, the Department will issue a revised Mixture Design Report. Each trial mixture design submittal in accordance with 2360.2E, “Mixture Design,” may have three JMF adjustments per mixture per Project without charge.

S-22.18 Delete and Replace 2360.2G.14.a, “Ratio of New Added Asphalt Binder to Total Asphalt Binder – Acceptance Criteria,” with the following:

**G.14.a Ratio of New Added Asphalt Binder to Total Asphalt Binder – Acceptance Criteria**

Minimum design ratio of new added asphalt binder to total asphalt binder is shown in Table 2360.2-12. During production the ratio must meet the moving average requirements as listed in Table 2360.2-12.

**Table 2360.2-12  
Ratio of New Added Asphalt Binder to Total Asphalt Binder Acceptance Criteria**

| Specified Asphalt Grade                   | Recycled Material |           |          |
|---|-------------------|-----------|----------|
|   | RAS Only          | RAS + RAP | RAP Only |
| PG 58*-28, PG 52S-34, PG 49-34, PG 64S-22 |                   |           |          |
| Wear (moving average)                     | 70                | 70        | 70       |
| Non Wear (moving average)                 | 70                | 70        | 65       |
| PG 58*-34                                 |                   |           |          |
| Wear & Non Wear (moving average)          | 80                | 80        | 80       |
| *= S, H, V, or E                          |                   |           |          |

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S-22.19 Delete and replace the first paragraph of 2360.3A.1, “Asphalt Release Agents,” with the following:  
Do not use petroleum distillates to prevent adhesion of asphalt mixtures to Equipment. An asphalt release agent must be on the APL. Drain excess release agents from truck boxes prior to loading.

S-22.20 Delete and replace Table 2360.3-3 of 2360.3D.1.g, “Lot Determination,” with the following:

**Table 2360.3-3  
Lot Determination**

| Daily Production, ton  | Lots  |
|--|---|
| 300* – 600   | 1   |
| 601 – 1,000  | 2   |
| 1,001 – 1,600  | 3   |
| 1,601 – 2,600  | 4   |
| 2,601 – 4,600  | 5   |
| > 4,600  | Add one lot for each additional 900 tons or part thereof. |
| * If producing no greater than 300 tons of mix, add it to the next production day. |   |

S-22.21 Delete and replace the first paragraph of MnDOT 2360.5B.6 with the following:  
If the individual test result for adjusted AFT is less than 7.5 microns, the Department may either apply monetary deductions in accordance with Table 2360.5-2 or order the Material removed and replaced represented by the individual test. This tonnage includes all Material placed from the sample point of the failing test to the sample point when the test result meets Specification requirements. If the failure occurs at the first test after the start of daily production, the Engineer may include the tonnage from the start of production that day with the tonnage subject to monetary deduction or removal and replacement.

S-22.22 Delete and replace Table 2360.5-2 of MnDOT 2360.5B.6 with the following:

**Table 2360.5-2  
Monetary Deduction Schedule for Individual Test Results, Adjusted AFT**

| Individual Adjusted AFT, microns | Monetary Deduction, percent                         |
|----------------------------------|---|
| ≥ 7.5                            | 0   |
| 7.4 – 7.0                        | 10  |
| 6.9 – 6.1                        | 25  |
| ≤ 6.0                            | Remove and replace at no expense to the Department. |

S-22.23 Delete and replace Table 2360.5-3 of 2350.5B.9, “Moving Average Failure – Production Air Voids,” with the following:

**Table 2360.5-3  
Monetary Deductions Schedule for Moving Average Test Results**

| Item   | Monetary Deduction, Percent * |
|--|-------------------------------|
| Gradation  | 10                            |
| Coarse and fine Aggregate crushing   | NA (individual failures only) |
| Adjusted AFT   | 20                            |
| Asphalt binder content   | 20                            |
| Production air voids   | 30                            |
| Ratio of New Added Asphalt Binder to Total Asphalt Binder                        | 10                            |
| * Lowest Pay Factor applies when there are multiple reductions on a single test. |                               |

S-22.24 Delete and replace the second paragraph of MnDOT 2360.5B.10 with the following:  
 The Engineer will calculate the moving average (n=4) Adjusted AFT during the sixth test after the beginning of mixture production of that specific mixture. The Engineer will include the individual results of calculations for tests No. 3, No. 4, No. 5, and No. 6 with this calculation. The Department may consider Material with the moving average (n=4) of the Adjusted AFT is less than 8.0 microns as unsatisfactory and apply monetary deductions of 80 percent of the relevant Contract Unit Price. The Department may calculate the quantity of Material subject to replacement or monetary deductions as the tons placed from the sample point of all Individual Adjusted AFT results less than 8.0 micrometers, which contributed to the moving average value that was less than 8.0 microns, to the sample point where the Individual Adjusted AFT is at least 8.0 microns. If the failure occurs at the first test after the start of daily production, the Engineer will include the tonnage from the start of production that day with the tonnage subject to monetary deductions.

S-22.25 Add the following to 2360.5B.10, “Moving Average Failure - Percent Asphalt Binder Content, Gradation, and Adj. AFT:”

**B.10.a Moving Average Failure - Ratio of New Added Asphalt Binder to Total Asphalt Binder**

If the moving average for the ratio of new added asphalt binder to total asphalt binder does not meet the requirements specified in Table 2360.2-12, the Department may apply Monetary Deductions for the placed Material in accordance with Table 2360.5-3. The Engineer will calculate the quantity of Material subject to Monetary Deductions as the tons placed from the sample point of the failing test until the sampling point where the test result meets the Specifications. If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subjected to monetary deductions.

**S-23 (2360) PLANT MIXED ASPHALT PAVEMENT (SUPERPAVE 5)**

**NEW 06/27/25**

SP2025-127.1

S-23.1 Add the following to 2360.2E.5, “Type of Design Submittal:”

**E.5.d Hamburg Wheel Track Test**

The Contractor may use one of the following options to verify the Hamburg Wheel Track Test meets the requirements in Table 2360.2-4, “Mixture Requirements”

**E.5.d(1) Option A**

Provide Hamburg Wheel Tract Test results from an AASHTO re:source (formerly AMRL) accredited laboratory. Batch material at the design proportions including optimum asphalt. Use a cure time of 2 hours ±15 minutes at 290°F [144 C].

**E.5.d(2) Option B**

At least 7 calendar days before actual production, submit a sample to the Office of Material and Road Research for Hamburg Wheel Track Testing. Batch and cure in accordance with Option A. Compact and submit briquettes in accordance with Table 2360.2-3A:

**Table 2360.2-3A  
 Option B Mixture Requirements**

| Item                                    | Gyratory Design |
|---|-----------------|
| Number of compacted briquettes*         | 4               |
| Compacted briquette air void content    | 4.5 % – 5.5 %   |
| *6 in diameter and 62 mm high specimens |                 |

S-23.2 Delete replace Table 2360.2-4 of 2360.2E.6, “Mixture Requirements,” with the following:

**Table 2360.2-4  
Mixture Requirements**

| <b>Traffic Level</b>   | <b>2</b>    | <b>3</b>      | <b>4</b>       | <b>5</b>        |
|--|-------------|---------------|----------------|-----------------|
| 20 year design ESALs   | < 1 million | 1 – 3 million | 3 – 10 million | 10 – 30 million |
| Gyratory mixture requirements:   |             |               |                |                 |
| Gyrations for N <sub>design</sub>  | 30          | 30            | 50             | 50              |
| % Air voids at N <sub>design, wear</sub>   | 5.0         | 5.0           | 5.0            | 5.0             |
| % Air voids at N <sub>design, Non-wear and all shoulder</sub>  | 5.0         | 5.0           | 5.0            | 5.0             |
| Hamburg Wheel Test<br>Minimum # of Passes with<br>less than 12.5 mm Rut<br>Depth (46°C)  | 5,000       | 5,000         | 7,500          | 10,000          |
| Adjusted Asphalt Film<br>Thickness, minimum μ  | 8.5         | 8.5           | 8.5            | 8.5             |
| TSR*, minimum %  | 75          | 75            | 80†            | 80†             |
| Fines/effective asphalt  | 0.6 – 1.2   | 0.6 – 1.2     | 0.6 – 1.2      | 0.6 – 1.2       |
| *Use 6 in [150 mm] specimens in accordance with 2360.2G.7.i, “Field Tensile Strength Ratio (TSR).”<br>   MnDOT minimum = 65<br>†MnDOT minimum = 70 |             |               |                |                 |

S-23.3 Add the following to the list in 2360.2E.9, “Documentation:”

(15) Hamburg Wheel Test Result (Maximum rut depth at specified number of passes)

S-23.4 Delete and replace Table 2360.3-1 of 2360.3D.1, “Maximum Density,” with the following:

**Table 2360.3-1  
Required Minimum Lot Density (Mat)**

|   | <b>5 Percent Design Voids*   </b> | <b>1 Percent Reduced Density*<br/>5 Percent Design Voids</b> |
|---|-----------------------------------|--|
| Percent Gmm   | 93.0                              | 92.0   |
| * Reduce the minimum by 1 percent on the first lift constructed over PCC pavements.<br>   Can reduce the minimum by 1 percent for the first lift constructed on aggregate base (mainline and shoulder), reclaimed or cold in place recycled base courses and first lift of an overlay on roadway with a spring load restriction no greater than 7 ton, including shoulders. |                                   |  |

S-23.5 Delete and replace Table 2360.3-2 of 2360.3D.1, “Maximum Density,” with the following:

**Table 2360.3-2  
Longitudinal Joint Density Requirement**

| <b>Location</b>  | <b>Confined Edge of Mat*</b> | <b>Unconfined Edge of Mat   </b> |
|--|------------------------------|----------------------------------|
| Long joint wear and shoulder (5% air voids)  | 91.0                         | 89.5                             |
| * The Department defines “confined” as the edges of the placed mat abutting another mat, pavement surface, or curb and gutter.<br>   The Department defines “unconfined” or “unsupported” as no abutment on the side of the mat being placed with another mat or pavement surface. |                              |                                  |

S-23.6 Delete and replace Table 2360.5-4 of 2360.5B.13, “Compaction – Maximum Density” with the following:

**Table 2360.5-4  
Payment Schedule for Maximum Mat Density**

| ( 5% Design Void) Density, %* | Mat Density Pay Factor A |                        |
|-------------------------------|--------------------------|------------------------|
|                               | Traffic Level<br>2 & 3   | Traffic Level<br>4 & 5 |
| ≥ 95.0                        | 1.03                     | 1.05                   |
| 94.1 – 94.9                   | 1.02                     | 1.04                   |
| 93.0 – 94.0                   | 1.00                     | 1.00                   |
| 92.0 – 92.9                   | 0.98                     | 0.98                   |
| 91.5 – 91.9                   | 0.95                     | 0.95                   |
| 91.0 – 91.4                   | 0.91                     | 0.91                   |
| 90.5 -- 90.9                  | 0.85                     | 0.85                   |
| 90.0 -- 90.4                  | 0.70                     | 0.70                   |
| < 90.0                        | †                        | †                      |

\*Calculate the percent of maximum specific gravity to the nearest tenth.  
 || Payment will only apply if the day's weighted average individual production air voids fall within - ½ percent of the target air void value. Base the weighted average air voids on all the mixture production tests in accordance with 2360.2.G.7, "Production Tests" for the corresponding day and weight by the tons the corresponding test represents.  
 †The Department will pay for the HMA material represented by the lot at 70 percent of the relevant contract unit price; unless a single core density in the lot is less than 90.0 percent of the maximum specific gravity (G<sub>mm</sub>). If a single core density is less than 90.0 percent of G<sub>mm</sub>, the Engineer will decide if the mixture is subject to removal and replacement or if will be accepted at a reduced payment of 50 percent of the relevant contract unit price. If the Engineer decides the material is to be removed and replaced, the Contractor will do so at no additional cost to the Department. Take additional core samples to determine the limits of the removal and replacement area or 50% payment using the same offset from centerline as the original core. If the original low density core was taken within 1½ ft of an edge of the paver pass, take the additional cores at 1½ ft from the edge of the paver pass. Determine the densities at 50 ft intervals both ahead and behind the point of unacceptable core density until finding a point of acceptable core density (>90.0% for 5% void). If the 50 ft incremental testing extends into a previously accepted lot, removal and replacement may be required, but, these results will not be used to recalculate the previously accepted lot density. Perform the additional coring and testing at no cost to the Department. The Department will calculate the area of unacceptable pavement as the product of the longitudinal limits as determined by the 50 ft cores and the full width of the paver pass, laying in the traffic lane or lanes. The Department will exempt shoulders from this calculation unless density failure occurred in the shoulder area.  
 Establish an additional density lot for the pavement that has been removed and replaced. Cut 2 cores randomly with companions for the Department (total 4 cores) and determine average density. Make payment in accordance with Table 2360.5-4 or Table 2360.5-5 excluding any incentive payment. Determine the density for the remainder of the lot by averaging the original acceptable core density value with the first two acceptable core densities taken ahead and behind the unacceptable core density. Make payment in accordance with Table 2360.5-4 or Table 2360.5-5 excluding any incentive payment.

S-23.7 Delete and replace Table 2360.5-5 of 2360.5B.13, "Compaction – Maximum Density" with the following:

**Table 2360.5-5\*  
1 Percent Reduced Table**

| (5% Design Void) Maximum Specific Gravity,<br>% | Payment, % |
|---|------------|
| ≥ 92.0  | 100        |
| 91.0 – 91.9                                     | 98         |
| 90.7 – 90.9                                     | 95         |

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| <b>(5% Design Void) Maximum Specific Gravity,<br/>%   </b> | <b>Payment, %</b> |
|--|-------------------|
| 90.4 – 90.6  | 91                |
| 90.2 – 90.3  | 85                |
| 90.0 – 90.1  | 70                |
| < 90.0†  | †                 |

\*Can reduce the minimum by 1 percent for the first lift constructed on aggregate base (mainline and shoulder), reclaimed or cold in-place recycled base courses and first lift of an overlay on a roadway with a spring load restriction (including shoulders) no greater than 7 ton. Reduce the minimum by 1 percent on the first lift constructed on PCC pavements (reduced density cannot be waived on PCC).

|| Calculate the percent of maximum specific gravity to the nearest tenth.

†The Department will pay for the HMA material represented by the lot at 70 percent of the relevant contract unit price; unless a single core density in the lot is less than 87.0 percent of the maximum specific gravity ( $G_{mm}$ ). If a single core density is less than 87.0 percent of  $G_{mm}$ , the Engineer will decide if the mixture is subject to removal and replacement or if it will be accepted at a reduced payment of 50 percent of the relevant contract unit price. If the Engineer decides the material is to be removed and replaced, the Contractor will do so at no additional cost to the Department. Take additional core samples to determine the limits of the removal and replacement area or 50% payment using the same offset from centerline as the original core. If the original low density core was taken within 1½ ft of an edge of the paver pass, take the additional cores at 1½ ft from the edge of the paver pass. Determine the densities at 50 ft intervals both ahead and behind the point of unacceptable core density until finding a point of acceptable core density (>89.0%). If the 50 ft incremental testing extends into a previously accepted lot, removal and replacement may be required, but, these results will not be used to recalculate the previously accepted lot density. Perform the additional coring and testing at no cost to the Department. The Department will calculate the area of unacceptable pavement as the product of the longitudinal limits as determined by the 50 ft cores and the full width of the paver pass, laying in the traffic lane or lanes. The Department will exempt shoulders from this calculation unless density failure occurred in the shoulder area.

Establish an additional density lot for the pavement that has been removed and replaced. Cut 2 cores randomly with companions for the Department (total 4 cores) and determine average density. Make payment in accordance with Table 2360.5-4 or Table 2360.5-5 excluding any incentive payment.

Determine the density for the remainder of the lot by averaging the original acceptable core density value with the first two acceptable core densities taken ahead and behind the unacceptable core density. Make payment in accordance with Table 2360.5-4 or Table 2360.5-5 excluding any incentive payment.

S-23.8 Delete and replace Table 2360.5-6 of 2360.5B.13, “Compaction – Maximum Density” with the following:

**Table 2360.5-6\***  
**Payment Schedule for Longitudinal Joint Density**  
**5% Design Void**

| Longitudinal Joint<br>(Confined Edge)<br>Density, % | Pay Factor B<br>Longitudinal (Confined Edge) |                        | Longitudinal Joint<br>(Unsupported Edge)<br>Density, % | Pay Factor C<br>(Unsupported Edge) |                        |
|---|--|------------------------|--|------------------------------------|------------------------|
|   | Traffic Level<br>2 & 3                       | Traffic Level<br>4 & 5 |  | Traffic Level<br>2 & 3             | Traffic Level<br>4 & 5 |
| ≥ 92.6  | 1.02†  | 1.03†                  | ≥ 91.5   | 1.02†                              | 1.03†                  |
| 92.0 – 92.6   | 1.01†  | 1.02†                  | 90.5 – 91.4  | 1.01†                              | 1.02†                  |

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| Longitudinal Joint<br>(Confined Edge)<br>Density, % | Pay Factor B<br>Longitudinal (Confined Edge) |                        | Longitudinal Joint<br>(Unsupported Edge)<br>Density, % | Pay Factor C<br>(Unsupported Edge) |                        |
|---|--|------------------------|--|------------------------------------|------------------------|
|   | Traffic Level<br>2 & 3                       | Traffic Level<br>4 & 5 |  | Traffic Level<br>2 & 3             | Traffic Level<br>4 & 5 |
| 91.0 – 91.9   | 1.00   | 1.00                   | 89.5 – 90.4  | 1.00                               | 1.00                   |
| 89.5 – 90.9   | 0.98   | 0.98                   | 88.0 – 89.4  | 0.98                               | 0.98                   |
| 88.0 – 89.4   | 0.95   | 0.95                   | 86.5 – 87.9  | 0.95                               | 0.95                   |
| 87.0 – 87.9   | 0.91   | 0.91                   | 85.0 – 86.4  | 0.91                               | 0.91                   |
| < 87.0  | 0.85   | 0.85                   | < 85.0   | 0.85                               | 0.85                   |

\*The Department will limit incentive payment for longitudinal joint density to lots with evaluated longitudinal joint densities.  
 || Calculate the percent of maximum specific gravity to the nearest tenth.  
 †Payment will only apply if the day's weighted average individual production air voids fall within - ½ percent of the target air void value.  
 Base the weighted average air voids on all the mixture production tests in accordance with 2360.2.G.7, "Production Tests" for the corresponding day and weight by the tons the corresponding test represents.

**S-24      (2360) PLANT MIXED ASPHALT PAVEMENT (THICKNESS PAYMENT SCHEDULE)**

**INITIAL 03/28/25**

SP2025-128

S-24.1      Delete and replace 2360.3E.1, "Lift Thickness," with the following:

E.1      Lift Thickness

E.1.a      Thickness Lot for Measurement

In Maximum Density Projects, the Thickness Lot will represent the same area as the Density Lot for the final Lift of any particular mixture.

In Ordinary Compaction Projects, the Thickness Lot shall represent a 1/2-mile-long segment for the final Lift of any particular mixture, or portion thereof at the end of each segment of paving. Paving segments of less than 1/2 mile will require fewer cores on a pro rata basis. The areas represented for thickness acceptance will be measured by length of paving segment times width of paving pass.

E.1.b      Average Measured Thickness

The Average Measured Thickness for each Thickness Lot will be the average of all the thickness measurements obtained from the core thicknesses of the density cores and the special thickness cores.

For Maximum Density Projects, two special thickness cores for each Thickness Lot shall be cut by the Contractor in addition to the regular density cores. All Work associated with these additional cores shall be included in the Pay Item and the location of these cores shall be taken at random locations selected by the Engineer. The special thickness cores shall not be taken within 1 foot of any unsupported edge.

For Ordinary Compaction Projects, four thickness cores shall be cut for each Thickness Lot. All Work associated with the thickness cores cut by the Contractor shall be included in the Pay Item and the location of the cores shall be taken at random locations selected by the Engineer. The thickness cores shall not be taken within one foot of any unsupported edge.

If more than one Lift of the same type of mixture is placed to obtain specified thickness, the Average Measured Thickness will be the average of the total thickness of each type of mixture, and will be determined with cores taken after the entire thickness of each type of mixture is placed.

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An additional 1/16-inch tolerance will be added to the Thickness Tolerances shown in the Thickness Acceptance Schedule, for the total thickness of non-wearing course asphalt pavement constructed on Aggregate base or reclaimed bituminous surfaces. This additional amount of tolerance also applies to the total thickness of wearing courses paved directly on Aggregate base or reclaimed bituminous surfaces.

S-24.2 Add the following to 2360.4, “Plant Mixed Asphalt Pavement, Method of Measurement:”

When paying for Material by Square Yard the Engineer will measure the Plan dimensions for standard width and/or irregular width paving at the dimensions and thickness specified. There will be no additional payment for asphalt pavement constructed with a greater thickness or width than required by the Plans. Actual thicknesses of the mixtures will be determined by measurement of the cores required for density testing and additional cores specifically cut for thickness checks.

The Engineer may direct the Contractor to construct Asphalt Pavement in thicknesses different than that shown in the Plans for small quantities. The Method of Measurement will be a direct proration from the original thickness to the changed thickness, with payment to be made at Contract Unit Prices.

S-24.3 Delete and replace the 4th paragraph of 2360.5, “Plant Mixed Asphalt Pavement, Basis of Payment,” with Blank.

S-24.4 Add the following to 2360.5B, “Monetary Adjustment:”

**B.17 Pavement Thickness**

The Department may apply a Monetary Deductions if the specified thicknesses are not obtained in accordance with the tolerances and deductions shown in Table SP2360.5-8 applied to each Thickness Lot. The Monetary Deduction will apply to asphalt mixtures placed over all Aggregate base, reclaimed bituminous, and any other unpaved, milled or previously paved surfaces.

**Table SP2360.5-8  
Monetary Deduction Schedule for Thickness Results**

| <b>Thickness Tolerance*</b>   | <b>Percent Deduction   </b>  |
|---|--|
| 0 to 5.0% less than specified   | No deduction   |
| 5.1 to 17.0% less than specified  | Percent Deduction = 1.0 times the actual Percent less than specified thickness |
| 17.1 to 23.0% less than specified   | Percent Deduction = 1.5 times the actual Percent less than specified thickness |
| 23 .1 to 30.0% less than specified  | Percent Deduction = 2.0 times the actual Percent less than specified thickness |
| In excess of 30.0% less than specified  | Corrective action shall be taken as directed by the Engineer                   |
| * The percent less than the total specified Pay Item thickness obtained from the Average Measured Thickness for each Lot. |  |
| To be applied to payment for each Lot   |  |

**S-25 (2399) PAVEMENT SURFACE SMOOTHNESS**

**NEW 09/26/25**

**SP2025-131.1**

S-25.1 Delete and replace Table 2399.3-1 and 2399.3-2 of 2399.3B, “Exclusions” with the following:

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**Table 2399.3-1  
Areas Excluded from Smoothness Evaluation**

| <b>Pavement</b>        | <b>Excluded Areas</b>   |
|------------------------|---|
| Bituminous or concrete | Paving in areas with a posted vehicle speed less than or equal to 45 mph                                |
|                        | Ramps   |
|                        | Acceleration and deceleration lanes less than 1,000 feet in length                                      |
|                        | Physically isolated segments less than 1,000 feet in length   |
|                        | Intersections constructed under traffic – begin and end exclusion 100 feet from the Intersection radius |
| Concrete               | Doweled Shoulders greater than or equal to 10 feet in width   |

**Table 2399.3-2  
Areas Excluded from Smoothness and ALR Evaluation**

| <b>Pavement</b>        | <b>Excluded Areas</b>   |
|------------------------|---|
| Bituminous or concrete | Paving in areas with a posted vehicle speed less than or equal to 35 mph  |
|                        | Paving in areas with a cautionary vehicle speed less than or equal to 35 mph  |
|                        | Turn Lanes, crossovers  |
|                        | 20 feet on either side of obstructions in lane that obstruction is located  |
|                        | Side Streets, side connections  |
|                        | 150 feet before stop signs at an Intersection   |
|                        | 150 feet before yield signs at a roundabout   |
|                        | Bridge decks, approach panels   |
|                        | 20 feet from Bridge decks or approach panels  |
|                        | 20 feet from terminal headers tying into existing pavement  |
|                        | Loops   |
|                        | Projects less than 1,000 feet in length   |
| Bituminous             | Paved Shoulders   |
|                        | Intersections where mainline profiles are merged or blended into the cross Street profile – begin and end exclusion 100 feet from the Intersection radius |
|                        | Single Lift overlays placed directly on concrete  |
| Concrete               | Doweled Shoulders less than 10 feet in width  |
|                        | Undoweled Shoulders   |
|                        | Headers adjacent to colored concrete  |

S-25.2 Delete and replace Table 2399.5-2 of 2399.5A.1.b, “Concrete Pavements,” with the following:

**Table 2399.5-2  
Smoothness Incentive/Disincentive and Corrective Work for Concrete Pavements**

| <b>Equation</b> | <b>Smoothness<br/>inches/mile</b> | <b>Incentive/Disincentive<br/>\$/0.1 mile</b> |
|-----------------|-----------------------------------|---|
| PCC-A           | < 30.0                            | 1440.00                                       |
|                 | 30.0 – 85.0                       | 2880.00 – 48.000 × Smoothness                 |
|                 | > 85.0                            | Corrective Work to ≤ 60.0 inches per mile     |
| PCC-B           | < 45.0                            | 890.00  |
|                 | 45.0 – 85.0                       | 2892.50 – 44.500 × Smoothness                 |
|                 | > 85.0                            | Corrective Work to ≤ 65.0 inches per mile     |

**S-26 (2504) CHANGES IN LOCAL GOVERNMENT UNIT (LGU) SYSTEM**

**INITIAL 03/28/25**

SP2025-149

S-26.1 DESCRIPTION  
This Work consists of modifications to the LGU, City of Lakeville utility systems including, the excavation and subsequent backfill necessary to expose the watermains, sewers, etc. for the purpose of disconnecting or connecting to the new Work. The Work shall be performed in accordance with MnDOT Standard Specifications, the City of Lakeville Utility & Street Construction Standard Specifications Book

S-26.2 MATERIALS  
See City of Lakeville Utility & Street Construction Standard Specifications

S-26.3 CONSTRUCTION REQUIREMENTS

A General  
The Work to be done is on Watermain, Sanitary Sewer facilities owned by the LGU, City of Lakeville.

Notify the Engineer and the LGU at least 48 hours in advance of doing the Work.

The LGU will have a representative at the construction site during this Work.

B Inspection  
All inspection and testing requirements will be in accordance with the LGU Special Provisions.

Deficiencies detected by testing, and/or inspection, will be corrected by the Contractor at their own expense.

The responsibility of the LGU Inspector shall not extend to modifying the Contract. The Engineer will retain the exclusive right to determine if the Contractor has satisfactorily performed the work covered by this Special Provision.

S-26.4 METHOD OF MEASUREMENT  
See City of Lakeville Utility & Street Construction Standard Specifications

S-26.5 BASIS OF PAYMENT  
See City of Lakeville Utility & Street Construction Standard Specifications

**S-27            (2504) CONNECT TO EXISTING WATERMAIN**

S-27.1        DESCRIPTION  
 This Work consists of locating and connecting to Existing Watermain in accordance with the City of Lakeville Utility & Street Construction Standard Specifications.

S-27.2        MATERIALS  
 All watermain materials shall meet City of Lakeville Utility & Street Construction Standard Specifications and CEAM 2018 Specifications

S-27.3        CONSTRUCTION REQUIREMENTS  
 See City of Lakeville Utility & Street Construction Standard Specifications

S-27.4        METHOD OF MEASUREMENT  
 The Engineer will measure the number of connections to existing of watermains.

S-27.5        BASIS OF PAYMENT  
 The Contract Unit Price for Connect to Existing Watermain is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Concrete Walk on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>                         | <b>Unit</b> |
|-----------------|-------------------------------------|-------------|
| 2504.602        | Connect to Existing Watermain ..... | each        |

**S-28            (2504) GATE VALVE & BOX**

S-28.1        DESCRIPTION  
 This Work consists of furnishing and installing a Gate Valve & Box in accordance with the City of Lakeville Utility & Street Construction Standard Specifications.

S-28.2        MATERIALS  
 All watermain materials shall meet City of Lakeville Utility & Street Construction Standard Specifications and CEAM 2018 Specifications

S-28.3        CONSTRUCTION REQUIREMENTS  
 See City of Lakeville Utility & Street Construction Standard Specifications

S-28.4        METHOD OF MEASUREMENT  
 The Engineer will measure the number of gate valves of each size and type which includes the required manhole or valve box setting.

S-28.5        BASIS OF PAYMENT  
 The Contract Unit Price for Gate Valve & Box is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Concrete Walk on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>            | <b>Unit</b> |
|-----------------|------------------------|-------------|
| 2504.602        | Gate Valve & Box ..... | each        |

**S-29            (2504) BLOWOUT**

S-29.1        DESCRIPTION  
 This Work consists of furnishing and installing a water service Blowout in accordance with the City of Lakeville Utility & Street Construction Standard Specifications.

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- S-29.2 MATERIALS  
All watermain materials shall meet City of Lakeville Utility & Street Construction Standard Specifications and CEAM 2018 Specifications
- S-29.3 CONSTRUCTION REQUIREMENTS  
See City of Lakeville Utility & Street Construction Standard Specifications. Provide shop drawings as requested by the Engineer or Landscape Architect.
- S-29.4 METHOD OF MEASUREMENT  
The Engineer will measure the number Blowouts
- S-29.5 BASIS OF PAYMENT  
The Contract Unit Price for Blowout is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Concrete Walk on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>  | <b>Unit</b> |
|-----------------|--------------|-------------|
| 2504.602        | Blowout..... | each        |

**S-30            (2504) 1.5" TYPE K WATERMAIN**

- S-30.1 DESCRIPTION  
This Work consists of furnishing and installing Water Service lines in accordance with the City of Lakeville Utility & Street Construction Standard Specifications.
- S-30.2 MATERIALS  
All watermain materials shall meet City of Lakeville Utility & Street Construction Standard Specifications and CEAM 2018 Specifications
- S-30.3 CONSTRUCTION REQUIREMENTS  
See City of Lakeville Utility & Street Construction Standard Specifications.
- S-30.4 METHOD OF MEASUREMENT  
The Engineer will measure the length of 1.5" Type K Watermain furnished and installed along the axis of the pipe.
- S-30.5 BASIS OF PAYMENT  
The Contract Unit Price for 1.5" Type K Watermain is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for 1.5" Type K Watermain on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>                | <b>Unit</b> |
|-----------------|----------------------------|-------------|
| 2504.602        | 1.5" Type K Watermain..... | linear foot |

**S-31            (2504) IRRIGATION SYSTEM REPAIR**

- S-31.1 DESCRIPTION  
Care must be taken to ensure that existing irrigation systems in place at the start of construction are protected from unnecessary damage. The City will pay for irrigation systems that must be modified because of new construction. Unnecessary damage caused to existing sprinkler heads and valves will be repaired at the Contractor's expense.
- S-31.2 MATERIALS  
New components used in the repair/replacement shall be consistent with existing system components. The existing system and its components shall be salvaged and reinstalled where possible.

S-31.3 CONSTRUCTION REQUIREMENTS

It is the Contractor’s responsibility to verify all irrigation head and main locations prior to the beginning of construction so as to protect the portions of the irrigation system will not be affected by the new construction.

Homeowners must be notified by the Contractor of any disturbances or disruptions of existing systems. Existing private irrigation systems (of all types and designs) impacted by construction are to be repaired and/or replaced. Replacement and/or repairs shall be made as directed in the field by the Engineer. Irrigation system materials, parts and appurtenances must match (or as closely as practical) to existing irrigation systems to be repaired.

Payment will not be made for repairs necessary due to Contractor construction techniques or Contractor failure to locate the heads. Locating all irrigation system heads within the project area shall be considered incidental to irrigation system repair.

S-31.4 METHOD OF MEASUREMENT

Measurement will be made on the basis of a unit, lot, or address. Additional compensation shall not be made for repairing the same irrigation system on multiple occasions or at multiple locations within the same parcel. If an irrigation system is damaged, causing the need for repair, any and all additional repairs beyond the initial repair to the same system shall be incidental.

The Engineer will measure number of Irrigation System Repairs completed as specified.

S-31.5 BASIS OF PAYMENT

The contract unit price for Irrigation System Repair shall be compensation in full equipment, materials, and labor required to complete the work.

| <b>Item No.</b> | <b>Item</b>                   | <b>Unit</b> |
|-----------------|-------------------------------|-------------|
| 2504.602        | Irrigation System Repair..... | each        |

**S-32            (2506) MANHOLES AND CATCH BASINS**

**NEW 12/19/25**

SP2025-149.1

S-32.1 Delete and replace 2506.2B, “Mortar,” with the following:

|          |                            |                |
|----------|----------------------------|----------------|
| <b>B</b> | <b>Masonry Mortar.....</b> | <b>3107.2A</b> |
|----------|----------------------------|----------------|

**S-33            (2506) MANHOLES AND CATCH BASINS (ADJUSTING RINGS)**

**INITIAL 03/28/25**

SP2025-150

S-33.1 Add the following to 2506.2, “Manholes and Catch Basins, Materials:”

|   |                              |                       |
|---|------------------------------|-----------------------|
| O | Adjusting Rings – HDPE ..... | Drainage Products APL |
|---|------------------------------|-----------------------|

S-33.2 Add the following to 2506.3G, “Adjusting Frame or Ring Casting:”

Adjusting Rings manufactured from High Density Polyethylene (HDPE) are approved as an alternate to concrete adjusting rings. Seal HDPE adjusting rings with the product recommended by the manufacturer.

**S-34            (2506) CONNECT INTO EXISTING DRAINAGE STRUCTURE**

**INITIAL 03/28/25**

SP2025-152

S-34.1            DESCRIPTION  
                       This Work consists of connecting new pipe into an existing drainage Structures in accordance with 2506, “Manholes and Catch Basins.”

S-34.2            MATERIALS – See Standard Specifications for Construction

S-34.3            CONSTRUCTION REQUIREMENTS  
                       Prior to fabricating adjacent drainage Structures or obtaining pipe connecting to the Structure, field verify the location (x,y) and top of casting elevation of existing drainage Structures and the location (x,y), invert elevation, size and type of existing storm sewer pipes connected to the Structure. Report any differences from the Plans to the Engineer on shop drawings and As-builts.

Core drill (or saw) openings in the existing drainage Structures. Jack hammers or other impact tools are not permitted for cutting holes.

Remove and replace unacceptable damage to the existing drainage structure at no cost the Department in accordance with 1512, “Unacceptable and Unauthorized Work.”

Provide a clean, water-tight connection to the proposed pipe.

S-34.4            METHOD OF MEASUREMENT  
                       The Engineer will measure the number of connections constructed.

S-34.5            BASIS OF PAYMENT  
                       The Contract Unit Price for Connect into Existing Drainage Structure is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Connect into Existing Drainage Structure on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>                                    | <b>Unit</b> |
|-----------------|--|-------------|
| 2506.602        | Connect into Existing Drainage Structure ..... | each        |

**S-35            (2515) REVETMENT SYSTEMS**

**INITIAL 03/28/25**

SP2025-154

S-35.1            Add the following to the first paragraph of 2515.3B, “Subgrade Preparation:”

Do not use bedding material contains recycled concrete aggregate (RCA).

S-35.2            Delete and replace 2515.3G, “Filling and Vegetation,” with the following:

If vegetation is shown in the Plans, fill voids of the revetment system with screened common topsoil borrow per 3877 “Topsoil Material.” Plant Mesic Inslope Seed Mixture per 3876 “Seed” and 2575 “Establishing Vegetation and Controlling Erosion.” Install category 30 rolled erosion prevention product per 3885 “Rolled Erosion Prevention Products” and 2575 “Establishing Vegetation and Controlling Erosion” unless otherwise shown in the Plans. Perform filing and vegetation after the Engineer completes inspection of any required clamping and anchoring systems.

**S-36 (2521) CONCRETE CURB RAMP WALK (ADA)**

**INITIAL 03/28/25**

SP2025-157

S-36.1 DESCRIPTION

This Work consists of constructing Concrete Curb Ramp Walk, including necessary Subgrade Preparation, and Grading in accordance with 2521, "Walks," 2104, "Removing Pavement and Miscellaneous Structures," 2106, "Excavation and Embankment – Compacted Volume Method," 2112, "Subgrade Preparation," 2211, "Aggregate Base," and S-14 (1804) PROSECUTION OF WORK (ADA).

S-36.2 MATERIALS – See Standard Specifications for Construction

S-36.3 CONSTRUCTION REQUIREMENTS

Grade and compact the subgrade in accordance with 2112, "Subgrade Preparation," and 2106.3G.2, "Quality Compaction". Dispose of excess material in accordance with 2104.3D, "Disposal of Materials and Debris."

Grade and compact the aggregate base in accordance with 2211, "Aggregate Base," and 2106.3G.2, "Quality Compaction".

Prior to initial landing construction ensure the subgrade is prepared and the aggregate base is placed for the entire curb ramp construction.

Construct Concrete Curb Ramp Walk in accordance with *Standard Plan 5-297.250* and 2521.3D.3, "Workmanship and Quality."

Sawcut contraction joints.

See separate landing pour requirements and reinforcement details on *Standard Plan 5-297.250* (sheet 6 of 6).

S-36.4 METHOD OF MEASUREMENT

The Engineer will measure Concrete Curb Ramp Walk by top surface area, which consists of 6 inch thick concrete at the quadrants including ramps, landings, flares, paved boulevards and thickness transitions until the sidewalk typical section meets full curb height. Refer to *Standard Plan 5-297.250* (Sheets 1 and 2) curb ramp details and bubble note 1.

In areas where directional curb is constructed, the triangular area behind the projected back of curb line will be measured as Concrete Curb Ramp Walk.

The area under the truncated domes will be measured as Concrete Curb Ramp Walk.

S-36.5 BASIS OF PAYMENT

The Contract Unit Price for Concrete Curb Ramp Walk is compensation in full for Equipment, Materials and labor required to complete the Work.

No payment will be made for excavation or borrow, including hauling or disposal, that is necessary to meet the walk grades unless specifically provided for in the Plans.

Drill and Grout Reinforcing Bars will be paid for separately.

Aggregate base will be paid for separately.

The Department will pay Concrete Curb Ramp Walk on the basis of the following schedule:

| Item No. | Item                         | Unit        |
|----------|------------------------------|-------------|
| 2521.618 | Concrete Curb Ramp Walk..... | square foot |

**S-37            (2531) TRUNCATED DOMES**

**INITIAL 03/28/25**

SP2025-161

S-37.1        DESCRIPTION

This Work consists of furnishing and installing Truncated Dome Systems at pedestrian curb ramps in accordance with 2531, "Concrete Curbing," 2521, "Walks," S-14 (1804) PROSECUTION OF WORK (ADA), and *Standard Plate 7038*.

S-37.2        MATERIALS

A            Detectable Warning Surfaces.....APL

S-37.3        CONSTRUCTION REQUIREMENTS

No cutting of coated colored truncated domes is allowed. Obtain Engineer's acceptance prior to cutting uncoated uncolored truncated domes. Minimum cut section surface area is two square feet. Grind cut edges smooth. A maximum of one cut section is allowed per pedestrian ramp.

Firmly press truncated domes into concrete filling the vent holes on the truncated dome plates.

Finish the concrete surface flush to within a tolerance of 1/16 inch with the detectable warning surface plate edge. Provide a 3-inch maximum concrete border around the edges of the truncated domes surface in accordance with *Standard Plans 5-297.250*.

Place the detectable warning surface plates flush to within a tolerance of 1/16 inch with adjacent plates.

The zero-inch height curb locations may be adjusted up to 6 inches laterally if radial dome sections are used.

Truncated domes shall provide a visual contrast to the concrete ramp of either dark on light or light on dark.

S-37.4        METHOD OF MEASUREMENT

The Engineer will measure the area of truncated domes installed in accordance with 1901.2, "Areas."

The Engineer will measure the length of radial truncated domes along the long chord.

S-37.5        BASIS OF PAYMENT

The Contract Unit Price for Truncated Domes is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Truncated Domes on the basis of the following schedule:

| Item No. | Item                 | Unit        |
|----------|----------------------|-------------|
| 2531.618 | Truncated Domes..... | square foot |

**S-38            (2540) SHELTER STRUCTURE**

S-38.1        DESCRIPTION

This Work consists of furnishing all material, equipment, and labor for the required construction of shelter structure in accordance with the Landscaping Plans.

S-38.2        **MATERIALS**  
 Shelter structure shall conform to the details shown on the Landscaping Plans and the manufacturer's recommendations.

All structural members shall comply with all applicable standards and be engineered to withstand snow, wind, and load conditions in accordance with Minnesota code.

S-38.3        **CONSTRUCTION REQUIREMENTS**  
 Provide shop drawings for the shelter structure as requested by the Landscape Architect and/or the Engineer.

Construct in accordance with the Landscaping Plan, manufacturer's instructions, approved shop drawings and Minnesota code.

S-38.4        **METHOD OF MEASUREMENT**  
 The Engineer will measure Shelter Structure as a lump sum in accordance with 1901.10, "Lump Sum."

S-38.5        **BASIS OF PAYMENT**  
 The contract unit price for Shelter Structure is compensation in full for Equipment, Materials and labor to complete the work.

The Department will pay for Shelter Structure on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>            | <b>Unit</b> |
|-----------------|------------------------|-------------|
| 2540.601        | Shelter Structure..... | Lump Sum    |

**S-39            (2540) DRINKING FOUNTAIN**

S-39.1        **DESCRIPTION**  
 This Work consists of furnishing all material, equipment, and labor for the required installation of drinking fountain in accordance with the Landscaping Plans.

S-39.2        **MATERIALS**  
 Drinking fountain shall conform to the details shown on the Landscaping Plans and the manufacturer's recommendations.

S-39.3        **CONSTRUCTION REQUIREMENTS**  
 Provide shop drawings for the Drinking Fountain as requested by the Landscape Architect and/or the Engineer.

Furnish and install Drinking Fountain in accordance with the details in the Landscaping Plans and manufacturers' recommendations.

S-39.4        **METHOD OF MEASUREMENT**  
 The Engineer will measure Shelter Structure as a lump sum in accordance with 1901.10, "Lump Sum."

S-39.5        **BASIS OF PAYMENT**  
 The contract unit price for Drinking Fountain is compensation in full for Equipment, Materials and labor to complete the work.

The Department will pay for Drinking Fountain on the basis of the following schedule:

| Item No. | Item                   | Unit     |
|----------|------------------------|----------|
| 2540.601 | Drinking Fountain..... | Lump Sum |

**S-40            (2540) LANDSCAPING ELEMENTS AND SITE FURNITURE**

- S-40.1        DESCRIPTION  
This Work consists furnishing and installing landscaping elements and site furniture in accordance with the Landscaping Plans.
  
- S-40.2        MATERIALS  
See Landscaping Plans.
  
- S-40.3        CONSTRUCTION REQUIREMENTS  
Provide shop drawings for landscaping elements and site furniture as requested by the Landscape Architect and/or the Engineer.  
  
Furnish and install Bench, Picnic Table, Grill, Ash Bin, Bike Loop, Bike Fix-it Station, Wheel Stop and Kiosk.
  
- S-40.4        METHOD OF MEASUREMENT  
The Engineer will measure the number of Benches, Picnic Tables, Grills, Ash Bins, Bike Loops, Bike Fix-it Stations, Wheel Stops and Kiosks furnished and installed.
  
- S-40.5        BASIS OF PAYMENT  
The Contract Unit Price for Benches, Picnic Tables, Grills, Ash Bins, Bike Loops, Bike Fix-it Stations, Wheel Stops and Kiosks is compensation in full for Equipment, Materials and labor required to complete the Work.

| Item No. | Item                      | Unit |
|----------|---------------------------|------|
| 2540.602 | Bench .....               | Each |
| 2540.602 | Picnic Table .....        | Each |
| 2540.602 | Grill.....                | Each |
| 2540.602 | Ash Bin .....             | Each |
| 2540.602 | Bike Loops .....          | Each |
| 2540.602 | Bike Fix-it Station ..... | Each |
| 2540.602 | Wheel Stops .....         | Each |
| 2540.602 | Kiosk.....                | Each |

**S-41            (2540) NATURAL STONE RETAINING WALL**

- S-41.1        DESCRIPTION  
This Work consists of constructing a Natural Stone Retaining Wall in accordance with the Landscaping Plans.
  
- S-41.2        MATERIALS  
See Landscaping Plans.
  
- S-41.3        CONSTRUCTION REQUIREMENTS  
See Landscaping Plans.
  
- S-41.4        METHOD OF MEASUREMENT

The Engineer will measure Natural Stone Retaining Wall by the area of wall face between a line 1 foot below the finished ground line in front of the wall and the top of the wall.

S-41.5 BASIS OF PAYMENT

The Contract Unit Price for Modular Block Retaining Wall is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Modular Block Retaining Wall on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>                       | <b>Unit</b> |
|-----------------|-----------------------------------|-------------|
| 2540.618        | Natural Stone Retaining Wall..... | square foot |

**S-42 (2562) ADDITIONAL TRAFFIC CONTROL DEVICES AND EXTENDED USE OF TRAFFIC CONTROL DEVICES**

**INITIAL 03/28/25**

SP2025-182

S-42.1 DESCRIPTION

This Work consists of providing additional traffic control devices in accordance with S-43 (2563) TRAFFIC CONTROL and as authorized by the Engineer.

The Engineer is authorized to:

- (1) Require extra traffic control devices in addition to the traffic control devices shown in the Traffic Control Plan or in the Field Manual.
- (2) Require additional traffic control devices for EXTRA WORK.
- (3) Require extended use for all traffic control devices which are impacted by excusable and compensable delays, as defined in 1806.2B, "Excusable, Compensable Delays."
- (4) Negotiate compensation for a Lump Sum Payment.

S-42.2 MATERIALS

Devices must meet Contract requirements, quality standards detailed in the Field Manual, and be in functional and legible condition. Maintain sufficient crashworthy standards. Devices not meeting these requirements must be immediately replaced or repaired.

S-42.3 CONSTRUCTION REQUIREMENTS

Furnish the additional traffic control devices as ordered by the Engineer.

S-42.4 METHOD OF MEASUREMENT

Driven post supports and all mounting hardware for 48"X48" signs and Standard Signs are included in the Traffic Control Pay Item.

Standard Signs with Portable Supports will be calculated and paid for as follows: Total Standard Sign Sq. Ft. + Portable Support Cost (listed in Table SP2562-1) = Standard Signs with Portable Supports Cost per day.

Construction Sign-Special will be measured by the sign face area furnished, installed including supports, maintained, and removed. Install with square tube steel posts and slip bases meeting MASH crashworthy standards.

Flaggers and Police Officers will be measured by the number of hours each is in service on the job. The Police Officer must be properly uniformed including a reflectorized high-visibility safety vest and fully equipped including police car.

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S-42.5 BASIS OF PAYMENT

The Department will not use the predetermined Unit Prices listed in Table SP2562-1 if payment for a device is specifically provided for elsewhere in the Contract.

A Devices, Flaggers and Police Officers:

The Engineer and Contractor are authorized to negotiate the terms of compensation for additional traffic control devices and extended use of traffic control devices. If the Engineer and Contractor are unable to agree on compensation using Contract Unit Prices or by negotiation, the Department will pay for traffic control devices according to the schedule of pre-determined prices in the following schedule:

**Table SP2562-1  
Additional Traffic Control Devices, Flaggers and Police Officers**

| <b>Item Number</b>  | <b>Item</b>   | <b>Unit</b> | <b>Pre-determined Price</b> |
|---|---|-------------|-----------------------------|
| 2562.602  | Impact Attenuator (Extended Duration)*#                             | Each        | \$85.51                     |
| 2562.603  | Pedestrian Channelizer (Extended Duration)*#                        | Linear Foot | \$0.41                      |
| 2562.603  | Portable Precast Concrete Barrier Design 8337 (Extended Duration)*# | Linear Foot | \$0.10                      |
| 2562.610  | Flagger   | Hour        |                             |
| 2562.610  | Police Officer†   | Hour        |                             |
| 2562.613  | Sidewalk Barricade  | Unit Day    | \$1.85                      |
| 2562.613  | Type III Barricade  | Unit Day    | \$3.36                      |
| 2562.613  | Flasher Type A (Low Intensity)                                      | Unit Day    | \$0.65                      |
| 2562.613  | Tubular Marker  | Unit Day    | \$0.56                      |
| 2562.613  | Type A Cone Channelizer   | Unit Day    | \$0.40                      |
| 2562.613  | Type A Weighted Channelizer   | Unit Day    | \$0.89                      |
| 2562.613  | Opposing Traffic Lane Divider                                       | Unit Day    | \$4.38                      |
| 2562.613  | Reflectorized Drum  | Unit Day    | \$1.11                      |
| 2562.613  | Flashing Arrow Board  | Unit Day    | \$43.70                     |
| 2562.613  | Portable Changeable Message Sign‡                                   | Unit Day    | \$97.17                     |
| 2562.613  | Vehicle Speed Feedback Sign   | Unit Day    | \$49.04                     |
| 2562.613  | 48"X48" Sign  | Unit Day    | \$2.00                      |
| 2562.613  | 48"X48" Sign with Supports  | Unit Day    | \$3.04                      |
| 2562.613  | Portable Sign Support   | Unit Day    | \$1.04                      |
| 2562.618  | Standard Sign*  | Square Foot | \$0.31                      |
| 2562.618  | Construction Sign Special (Additional)                              | Square Foot | \$48.29                     |
| 2562.613  | Construction Sign Special (Extended Duration)*#                     | Square Foot | \$0.45                      |
| 2562.613  | Audible Message Device  | Unit Day    | \$1.44                      |
| 2562.613  | Temporary Pedestrian Ramp   | Unit Day    | \$9.39                      |
| 2562.613  | Portable Rumble Strips (set of 3)                                   | Unit Day    | \$64.78                     |
| * Item will be paid by the item unit per each day in use.<br>   Will be paid in accordance with 1904.4A, "Labor."<br>† Will be paid at the invoice price plus 10 percent.<br>‡ Type C Trailer Mounted Message Sign.<br># Only to be paid when used for extended duration and a compensable delay is approved. |   |             |                             |

B Labor and Equipment:

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The Engineer and Contractor are authorized to negotiate the terms of compensation for labor and Equipment to furnish, install and remove additional traffic control devices listed in Table SP2562-1. If the Engineer and Contractor are unable to agree on compensation by negotiation, the Department will pay for labor and Equipment according to the following mileage-based method:

The Department will pay \$500.00 for the first 30 miles for mobilization and installation of additional traffic control devices. The Engineer will determine mileage based on the distance from the Traffic Control Contractor's closest office location to the Project limits (most direct route) plus mileage from the Project limits to the furthest location of the additional placement(s), round trip. The Department will pay a minimum of \$500.00.

The Department will pay \$2.40 per mile traveled over 30 miles. The Engineer will determine mileage based on the distance from the Traffic Control Contractor's closest office location to the Project limits (most direct route) plus mileage from the Project limits to the furthest location of the additional placement(s), round trip.

The Department will pay \$500.00 for the first 30 miles for de-mobilization and removal of additional traffic control devices. The Engineer will determine mileage based on the distance from the Traffic Control Contractor's closest office location to the Project limits (most direct route) plus mileage from the Project limits to the furthest location of the additional removal(s), round trip. The Department will pay a minimum of \$500.00.

The Department will pay \$2.40 per mile traveled over 30 miles. The Engineer will determine mileage based on the distance from the Traffic Control Contractor's closest office location to the Project limits (most direct route) plus mileage from the Project limits to the furthest location of the additional removal(s), round trip.

The Department will not pay for labor and Equipment for the installation/removal of additional traffic control devices when additional traffic control Work is combined with Plan-provided traffic control devices installation/removal during the original Contract period, unless a Contract revision meets the requirements listed in 1402.3, "Significant Changes to the Character of Work," and the Plan does not contain Item 2563.601 (Traffic Control).

The Department will not pay for labor and Equipment to inspect and maintain additional traffic control devices during the original Contract period, unless a Contract revision meets the requirements listed in 1402.3, "Significant Changes to the Character of Work," and the Plan does not contain Item 2563.601 (Traffic Control).

The Department will pay for labor and Equipment to inspect and maintain all traffic control devices when an extension of Contract Time is due to an excusable and compensable delay in accordance with 1806.2B, "Excusable, Compensable Delays."

The Department will not pay for labor and Equipment to remove existing traffic control devices, provided under S-43 (2563) TRAFFIC CONTROL, when Contract Time is extended.

**S-43 (2563) TRAFFIC CONTROL**

**REVISED 09/26/25**

SP2025-185

S-43.1 DESCRIPTION

This Work consists of furnishing, installing, maintaining, and removing all traffic control devices required to provide safe movement of traffic and pedestrians through the Project at all times from commencement of the Work until Project Acceptance. Maintain roads and pedestrian facilities undergoing improvements in a condition that accommodates public traffic. Do not close roads or pedestrian facilities, except as authorized. The Engineer may modify the requirements for traffic control as deemed necessary.

The Department will maintain Detour Roads established by the Commissioner for through traffic diverted from the Project unless otherwise indicated in the Plan.

The use of maintenance crossovers in or near the construction area is permitted if authorized by the Engineer.

The Contractor is not responsible for snow removal from roads or pedestrian facilities open to public traffic. Do not suspend operations for the winter until meeting the requirements of 1803.4, "Temporary Suspensions". During authorized winter suspension, the Department will maintain traffic control devices. If traffic control devices are damaged or destroyed, the Department will pay the Contractor the value of the device as determined by the Engineer.

All temporary traffic management must conform to and be installed in accordance with:

- the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD);
- the "Minnesota Temporary Traffic Control Field Manual" (Field Manual);
- the "Speed Limits in Work Zones Guidelines";
- the "Minnesota Flagging Handbook";
- the "MnDOT Standard Signs and Markings Manual";
- the Plan;
- all applicable standard Specifications and Special Provisions.

Manuals listed above may be found at: <http://www.dot.state.mn.us/trafficeng/publ/index.html>

#### S-43.2 MATERIALS

##### A Temporary Signs and Devices

Reflectorize all signs, paddles, and other traffic control devices including those used for daytime operations. Fabricate temporary rigid signs and devices with retroreflective sheeting material of the appropriate color listed on the Approved Products List (APL) for either "Sheeting for Rigid Temporary Work Zone Signs, Delineators, and Markers (Type IX and XI)" or "Sheeting for Rigid Permanent Signs, Delineators, and Markers (Type IX and XI)". The sheeting Materials APL is located at the following link: <http://www.dot.state.mn.us/products/signing/sheeting.html>.

Inplace signs that still apply during temporary operations need no change in sign sheeting.

##### B Truck/Trailer Mounted Attenuators

The Approved Products List for "Mobile Crash Attenuators" is found at:

<http://www.dot.state.mn.us/products/temporarytrafficcontrol/mobilecrashattenuators.html>

##### C Flashing Arrow Boards

On Projects requiring flashing arrow boards, provide Work Zone Data Exchange compliant arrow boards.

##### D Crashworthy Signs, Traffic Control Devices, and Ballast

Ground mounted signs and traffic control devices must be crashworthy and meet the crash testing requirements of the AASHTO Manual for Assessing Safety Hardware 2016 (MASH-16) unless otherwise shown in the Plan. The Department may require a letter of compliance stating that all signs and traffic control devices comply with MASH-16 requirements. The Letter of Compliance must include drawings of the different signs and devices along with a copy of the FHWA issued Letter of Eligibility or MnDOT MASH Crashworthy Evaluation.

Temporary portable sign supports may meet crashworthiness requirements of NCHRP 350 or MASH-16. The approved ballast system for signs and devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. Add a deicer during freezing conditions to prevent the sand from freezing. Place sandbags at the base of the sign or traffic control device. Do not use any ballast that causes a sign or traffic control device to become hazardous to motorists or workers.

Trailer mounted devices are not crash tested and must be delineated when deployed and removed when not needed.

#### S-43.3 CONSTRUCTION REQUIREMENTS

**A Traffic Control Plan, Maintenance, and Inspection**

- A.1 Submit proposed traffic control changes to the Engineer for acceptance if the Contractor modifies the traffic control Plan or Field Manual layout. Submit the proposed traffic control Plan at least seven days before implementation. If Field Manual layouts are used, specify layout number(s) but do not submit the layouts from the Field Manual. Do not implement the proposed traffic control modification until accepted by the Engineer.
- A.2 Immediately repair or replace all traffic control devices that become damaged, moved or destroyed, and all ballasts that are damaged, destroyed, or otherwise fail to stabilize the device.
- A.3 Meet the traffic control device quality standards as required in the Field Manual. Immediately replace unacceptable traffic control devices. Signs that are dirty and result in a noticeable loss of reflectivity at night are considered unacceptable and must be cleaned or replaced. Respond promptly to any call from the Engineer concerning the notification of unacceptable traffic control devices.
- A.4 Provide the names, addresses, and phone numbers of at least three individuals responsible for placing and maintaining traffic control devices to the Engineer at the Pre-construction Conference. These individuals will be "on call" 24 hours per day, seven days per week during the times any temporary traffic control devices are in place.
- A.5 Inspect all traffic control devices on a daily basis, including one nighttime inspection per week. Verify that the devices and pavement markings are placed in accordance with the Traffic Control Plan, these Special Provisions, and the MN MUTCD. Immediately correct discrepancies between the actual placement and the required placement. Respond immediately to any call from the Engineer concerning any request for improving or correcting traffic control devices.
- A.6 Make a daily log of required inspections. This log must indicate the date and time any changes in the stages, phases, or portions go into effect. The log must identify the location and verify that the devices and pavement markings are placed as directed or corrected in accordance with the Plan. The person making the inspection must sign the log and include the date and time of the entry. Provide copies of the inspection logs on a weekly basis and at the request of the Engineer.

**B Traffic Control Signs and Devices**

- B.1 Roll-up signs are not allowed unless authorized by the Engineer.
- B.2 Cover, modify, or remove all signs that are not consistent with traffic operations. Cover the entire sign or that part of the legend that is inappropriate. Sign covers must conform to the Typical Temporary Sign Covering Details Sheet found in the Plan or at the following link: [https://edocs-public.dot.state.mn.us/edocs\\_public/DMResultSet/download?docId=26730634](https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=26730634)
- B.3 Maintain Street identification signage at all times. Signs may be installed on temporary supports if the permanent sign Structures are affected by operations. This is necessary to maintain the 911 emergency system.
- B.4 Post mount all signs that will remain in the same location for more than 30 consecutive days. This does not include portable signs which are set up and taken down at the beginning and end of each Work shift.

When the proper location of a sign is on pavement, do not core through the surface. If there is a conflict with underground utilities, attempt to move the sign while maintaining its visibility to traffic. If it is not possible to drive posts into the ground, mount signs on portable supports as approved by the Engineer.

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When signs are removed, the sign posts and stub posts must also be removed from the Right-of-way. Posts left in place for future use or removal at a later date must be properly delineated with tubular markers, flags, or other delineation as approved by the Engineer at no additional cost.

- B.5 At the beginning of the Project, store at least 5 extra Type III barricades and 10 extra retroreflective drums to be used at the Engineer's discretion. Store the devices at a location approved by the Engineer.

If the Engineer orders additional devices, beyond the quantity specified above, the Department will compensate the Contractor according to S-42 (2562) ADDITIONAL TRAFFIC CONTROL DEVICES AND EXTENDED USE OF TRAFFIC CONTROL DEVICES.

- B.6 Signs and Structures damaged by the Contractor shall be replaced at the Contractor's expense.

- B.7 Provide Work Zone Data Exchange (WZDx) compliant flashing arrow boards. Provide data in accordance with the MnDOT WZDx requirements for Connected Work Zone Devices found on MnDOT Work Zone website.

C Traffic Safety

- C.1 Do not suspend material, Equipment, tools or personnel over lanes or pedestrian facilities open to traffic.

- C.2 Do not place Bridge deck concrete over lanes open to traffic or over active pedestrian facilities.

- C.3 Protect traffic and pedestrians from excavations, drop-offs, falling objects, splatter or other potential construction hazards.

- C.4 Do not store Materials or Equipment in the Work zone clear zone unless approved by the Engineer. If Materials or Equipment must be stored within the Work zone clear zone, protect with temporary barrier. If the Engineer agrees that temporary barrier is not practical, delineate with Type B channelizers.

- C.5 Do not park vehicles or construction Equipment in the clear zone or any location that obstructs traffic control devices. Workers are not allowed to park their private vehicles within the Project limits unless approved by the Engineer.

- C.6 Do not load or unload material or Equipment on the Shoulders of any Roadway without a full Shoulder closure using signs and channelizing devices shown on Layout 8 in the Field Manual.

D High Visibility Apparel

During night work or low light conditions, all workers must wear high visibility Class E long pants and retro-reflective headgear in addition to the ANSI Class 2 or 3 vest, shirt, or jacket.

All high visibility apparel must be worn in the manner for which it was designed. All apparel worn on the torso must be closed in the front to provide 360-degree visibility. A worker's high-visibility apparel must be removed from service and replaced if it becomes faded, worn, torn, dirty, or defaced, reducing the conspicuity of the apparel.

E Night Work

Night work is not permitted on this Project without prior approval of the Engineer.

F Vehicle Warning Light Specification

All vehicles and Equipment operating in the trunk highway Right-of-way, must have operable warning lights that are amber in color and meet the appropriate SAE Specification. The SAE Specification requirements are as follows:

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- (1) Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles- SAE Specification J845.
- (2) Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles - SAE Specification J595.

Details on SAE Specification can be found at: <http://www.dot.state.mn.us/const/wzs/lighting.html>

**G Lane Closure Requirements**

- G.1 Temporary lane closures or other traffic restrictions by the Contractor, during work hours and consistent with the time restrictions, will be permitted only during those hours and at those locations approved by the Engineer. Request temporary lane closures at least two Business Days prior to the closure.
- G.2 The Engineer may lengthen, shorten, or otherwise modify the following periods of restrictions as warranted by actual traffic conditions.
- G.3 Temporary lane closures or other traffic restrictions will only be permitted between the official hours of sunrise and sunset.

**H Truck/Trailer Mounted Attenuators (TMAs) For Mobile/Short Duration Operations**

Truck/Trailer Mounted Attenuators (TMA) must be used on all shadow and protection vehicles operating totally or partially in a Traffic Lane if any temporary traffic control zone is defined as “Mobile/Short Duration” by the Field Manual. All references to “should” in the Field Manual in regard to TMA use for Mobile/Short Duration layouts are hereby changed to “shall”. This requirement applies to all operations utilizing Field Manual layouts 9, 10, 12, 13, 36, 41, 49, 50, 51, 54, 55, 63, 76, 77, 78, and 79. Providing TMAs for “Mobile/Short Duration” work zones is included in Traffic Control Lump Sum.

**I Flagging Operations**

- I.1 Flaggers and Pilot Drivers must attend a training session taught by a MnDOT-Qualified Flagger Trainer. The trainer must have completed a “MnDOT Flagger Train the Trainer Session” within the last five years and be on file as a qualified Trainer with MnDOT. Provide all flaggers with the MnDOT Flagging Handbook. Flaggers must be in possession of the handbook while flagging on the Project. Furnish the signed “Checklist for Flagger Training” or “Flagger Qualification Card” to the Engineer any time a new flagger reports to work on the Project. The “Checklist for Flagger Training” and other forms and information is found at:  
<http://www.dot.state.mn.us/const/wzs/flagger.html>

Flaggers must be properly uniformed in the required high visibility apparel, including a high visibility hat. The high visibility hat can be substituted for a hard hat if the work site has a hard hat requirement.

- I.2 All signs associated with the flagging operation must be removed or covered when flagging operations are not present.
- I.3 Coordinate the flagging operations in a manner that causes minimum delay to the traveling public. The maximum delay time is 10 minutes. If the operation exceeds the maximum delay time, the operation must be discontinued until a new traffic control plan is developed which meets the maximum delay requirement.

**J Milling, Sealcoating, and Paving Operations**

- J.1 Traffic will be allowed on the milled surface.

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J.2 Intersecting Streets, other than Intersections controlled by signals or all-way stop signs, may be closed during milling and paving operations in the Intersection if there are adequate alternate routes for the intersecting Street traffic. Do not close adjacent intersecting Streets to traffic concurrently. Notify the local Road authorities of its schedule to close intersecting Streets 48 hours in advance of the closure.

K Maintenance and Staging of Traffic Control

K.1 Maintain the existing traffic movements at all Intersections except as detailed in the plans.

K.2 Pedestrian traffic must be maintained and guided through the Project at all times.

K.3 Maintain a minimum lane width of 11 feet on all Roadways. Traffic must not be allowed or forced onto the Shoulders without prior approval of the Engineer.

K.4 Parking may be banned within the construction limits. Notify the City of Lakeville and the Engineer at least 24 hours prior to posting any parking ban within the City. Provide and install the necessary signing 24 hours prior to the parking ban. Remove signs as soon as the work in the area has been completed.

K.5 Access to and from the Project Site is subject to approval by the Engineer.

K.6 Keep the Right of Way fence closed during non-working hours.

K.7 Avoid impacting the following events:

K.7.a Downtown Art Crawl: 5/9/2026

K.7.b Pan-O-Prog: 7/4/2026 to 7/12/2026

K.7.c Taste of Lakeville: 8/20/2026

K.7.d Lakeville Area Arts: 9/19/2026 to 9/20/2026

K.7.e Live at the Lake: 7/10/2026 to 8/31/2026 (WEDNESDAYS ONLY)

S-43.4 METHOD OF MEASUREMENT

All traffic control required to complete the Project as shown in the Plans and specified in these Special Provisions will be made as a lump sum payment under Item 2563.601 (Traffic Control). Payment includes all costs associated with furnishing, installing, maintaining, relocating and subsequently removing traffic control devices (including flaggers) as required. No additional measurement for payment will be made for individual activities and devices that constitute Traffic Control, except for other traffic control Bid items specifically listed in the Statement of Estimated Quantities.

Traffic Control layouts and devices not shown in the Plan or stated in these Special Provisions, that are necessary to facilitate traffic switches or for transitioning traffic from one stage to another, are included in the lump sum traffic control item. If the Contractor requests a change in traffic control and these changes are implemented, there will be no increase or decrease in the lump sum payment for traffic control. If the Engineer orders a change in traffic control because of a Plan error, omission, changed condition or change of Project scope, payment for such changes will be made as Extra Work.

If the Contractor fails to properly provide, install, maintain, or remove any of the required traffic control devices, the Department may correct the deficiency and to deduct the costs from any moneys due or becoming due to the Contractor in accordance with 1512, "Unacceptable and Unauthorized Work".

S-43.5 BASIS OF PAYMENT

Partial payments for lump sum Item 2563.601 (Traffic Control) will be made as follows:

**Table SP2563-2  
Traffic Control Partial Payments**

| Percent of Original Contract Completed                | Pay this Percentage of Traffic Control |
|---|--|
| 5   | 50                                     |
| 10  | 75                                     |
| 50  | 95                                     |
| All Work Completed<br>And All Traffic Control Removed | 100                                    |

**A Monetary Price Adjustments**

The Department must apply incentives and disincentives and may apply monetary deductions for (2563) TRAFFIC CONTROL. The amounts of these adjustments are deemed reasonable.

If the Contractor fails to adhere to the established time schedules, the Department may assess a monetary adjustment of \$1,500.00 per hour for each hour or portion of an hour that the Engineer determines that the Contractor has not complied.

**B Schedule**

The Contract Unit Price for Traffic Control is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Traffic Control on the basis of the following schedule:

| Item No. | Item                  | Unit     |
|----------|-----------------------|----------|
| 2563.601 | Traffic Control ..... | Lump Sum |

**S-44 (2571) PLANT INSTALLATION AND ESTABLISHMENT**

**NEW 12/19/25**

SP2025-202.1

S-44.1 Delete and replace 2571.3D.3, “Wet Soils, Rock, and Debris,” with the following:

**D.3 Wet Soils, Rock, and Debris**

If the Contractor encounters excessively wet soils, bedrock, or excessive quantities of boulders and construction debris, the Contractor may request the Engineer’s approval to relocate or delete plantings, or modify soil or drainage characteristics.

S-44.2 Delete the last sentence of 2571.3E.1, “Pruning – Top Growth and Roots.”

S-44.3 Delete and replace the last paragraph of 2571.3F.1, “Installation of Plants, General,” with the following:

Ensure drainage in the planting hole and bed areas. For a suspected drainage problem, perform a percolation test by filling a 16 inches deep planting hole with water and measuring the time it takes the water to drain from the hole. The Engineer considers adequate drainage equal to or greater than a percolation rate of 1/2 inch per hour. If drainage does not meet these requirements, request approval from the Engineer to relocate or delete affected planting locations.

S-44.4 Delete and replace the first paragraph of 2571.3G, “Watering,” with the following:

Provide watering Equipment and forces on the Project capable of completely watering plants as often as necessary to maintain soil moisture in the root zones in compliance with *Standard Plan 5-297.301*.

S-44.5 Delete and replace 2571.3I.2, “Rodent Protection,” and 2571.3I.3, “Seedling Tree Shelters,” with the following:

**I.2 Tree Trunk Protection**

Place tree trunk protection around deciduous, pine, and larch trees in accordance with *Standard Plan 5-297.301*.

**I.3 Woody Seedling Shelter**

Install woody seedling shelter in accordance with *Standard Plan 5-297.301*.

S-44.6 Delete and replace notes (3) and (4) of 2571.3K.2.a, “All Plants,” with the following:

- (3) Maintain soil moisture in accordance with the watering guidelines of *Standard Plan 5-297.301* and 2571.3G, “Watering.”
- (4) Repair, adjust, or replace staking and guying, planting soil, tree trunk protection, woody seedling shelters, and other items in accordance with the Plans and *Standard Plan 5-297.301*.

S-44.7 Delete and replace note (9) of 2571.3K.2.a, “All Plants,” with the following:

- (10) Prune to remove dead, rubbing, damaged, or diseased branches, unwanted suckers, and to improve plant form and structure in accordance with *Standard Plan 5-297.301*.

**S-45 (2571) METAL LANDSCAPE EDGER**

S-45.1 DESCRIPTION

This Work consists of furnishing all material, equipment, and labor for the required installation of Metal Landscape Edger in accordance with the Landscaping Plans.

S-45.1 MATERIALS

Metal Landscape Edger shall conform to the details shown on the Landscaping Plans and the manufacturer's recommendations.

S-45.2 CONSTRUCTION REQUIREMENTS

Provide shop drawings for the Metal Landscape Edger as requested by the Landscape Architect and/or the Engineer.

Furnish and install Metal Landscape Edger in accordance with the details in the Landscaping Plans and manufacturers’ recommendations.

S-45.3 METHOD OF MEASUREMENT

The Engineer will measure the length of Metal Landscape Edger installed.

S-45.4 BASIS OF PAYMENT

The Contract Unit Price for Metal Landscape Edger is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Metal Landscape Edger on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>                 | <b>Unit</b> |
|-----------------|-----------------------------|-------------|
| 2571.603        | Metal Landscape Edger ..... | linear foot |

**S-46 (2571) WEED BARRIER PAPER**

S-46.1 DESCRIPTION

This Work consists of furnishing all material, equipment, and labor for the required installation of Weed Barrier in accordance with the Landscaping Plans.

S-46.2 MATERIALS

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Weed Barrier Paper shall conform to the details shown on the Landscaping Plans and the manufacturer's recommendations.

S-46.3 CONSTRUCTION REQUIREMENTS

Furnish and install Weed Barrier Paper in accordance with the details in the Landscaping Plans and manufacturers' recommendations.

S-46.4 METHOD OF MEASUREMENT

The Engineer will measure Weed Barrier Paper by top surface area.

S-46.5 BASIS OF PAYMENT

The Contract Unit Price for Weed Barrier Paper is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Metal Landscape Edger on the basis of the following schedule:

| <b>Item No.</b> | <b>Item</b>              | <b>Unit</b> |
|-----------------|--------------------------|-------------|
| 2571.603        | Weed Barrier Paper ..... | square yard |

**S-47 (2573) STORM WATER MANAGEMENT**

**INITIAL 03/28/25**

SP2025-205

S-47.1 Add the following to 2573.5, "Storm Water Management, Basis of Payment:"

I Unit Prices

In addition to stormwater management Pay Items included in the Plan, the Engineer may require the items listed below. Payment for additional items as ordered by the Engineer will be made in accordance with the following schedule:

|   |                      |
|---|----------------------|
| Wheel Wash off.....   | \$5,000.00/each      |
| Flocculant Sock (250,000 gal. treatment vol.).....              | \$265.00 each        |
| Bale Barrier.....   | \$8.00/foot          |
| Silt Fence, Type HI.....  | \$4.50/foot          |
| Silt Fence, Type SD.....  | \$30.00/foot         |
| Silt Fence, Type MS.....  | \$2.75/foot          |
| Flotation Silt Curtain, Type: Moving, 1.2 m (4 foot) depth..... | \$22.50/foot         |
| Sediment Control Log, Type Wood Fiber.....                      | \$4.00/foot          |
| Sediment Control Log, Type Compost.....                         | \$4.00/foot          |
| Sediment Control Log, Type Rock.....                            | \$12.00/foot         |
| Sediment Trap Excavation.....                                   | \$10.00/cubic yard   |
| Sandbag Barrier.....  | \$15.00/square foot  |
| Sand Tote Bag.....  | \$75.00/each         |
| Sediment Removal, Backhoe.....                                  | \$240.00/hour        |
| Sediment Removal, Vacuum truck.....                             | \$425.00/hour        |
| Temporary Slope Drain (18" diameter).....                       | \$100.00/linear foot |
| Water Treatment Type Sediment Tank.....                         | \$20,250.00/each     |

**S-48 (2575) ESTABLISHING VEGETATION AND CONTROLLING EROSION**

**REVISED 09/26/25**

SP2025-208

S-48.1 DESCRIPTION – See Standard Specification for Construction

**Ritter Farm Trailhead & Downtown Lakeville Gateway – City of Lakeville**

- S-48.2 MATERIALS – See Standard Specification for Construction
  - A Seed.....S-57 (3876) Seed
- S-48.3 CONSTRUCTION REQUIREMENTS– See Standard Specification for Construction
- S-48.4 METHOD OF MEASUREMENT  
The Engineer will measure Seed in accordance with 2575.4B, “Seed.”
- S-48.5 BASIS OF PAYMENT  
The Contract Unit Price for Seed is compensation in full for Equipment, Materials and labor required to complete the Work.

The Department will pay for Seed on the basis of the following schedule:

| Item No. | Item       | Unit  |
|----------|------------|-------|
| 2575.608 | Seed _____ | pound |

**S-49      (3116) NATURAL POZZOLAN**

**INITIAL 03/28/25**

SP2025-214

- S-49.1 SCOPE  
Provide natural pozzolan for use in concrete and other applications.
- S-49.2 REQUIREMENTS  
Provide raw or calcined natural pozzolan material listed on the *Approved/Qualified Products List*, meeting the requirements of *ASTM C618, Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete*.

Include the following standardized Certification Statement with delivery invoices: “(insert company name) certifies that the (material name) produced at (insert plant and location) conforms to 3116 for Class N Natural Pozzolan.”

- S-49.3 SAMPLING AND TESTING  
Provide samples for testing meeting the requirements of fly ash in the *Schedule of Materials Control*.

**S-50      (3138) AGGREGATE FOR SURFACE AND BASE COURSES**

**NEW 12/19/25**

SP2025-214.1

- S-50.1 Delete and replace note (3) of 3138.2C, “Recycled Materials,” with the following:
  - (3) When mixing recycled Aggregate with virgin Aggerate, the maximum Los Angeles Rattler of virgin carbonate is 40 percent. Meet all other virgin Aggregate requirements in 3138.2B, “Virgin Materials.”

**S-51      (3149) GRANULAR MATERIAL**

**NEW 06/27/25**

SP2025-216.1

- S-51.1 Replace Table 3149.2-3 of 3149.2D.2, “Structural Backfill,” with the following:

**Table 3149.2-3  
Structural Backfill Requirements**

| Requirement                     | Percent         |
|---------------------------------|-----------------|
| 3/4 inch Sieve                  | 100 passing     |
| Percent Passing Ratio # 40/# 10 | 0 – 65 passing  |
| No.200 Sieve                    | 0 – 5.0 passing |
| Clay                            | 1.5 maximum     |

**S-52 (3245) THERMOPLASTIC PIPE**

**INITIAL 03/28/25**

SP2025-218

S-52.1 Delete and replace 3245.2(2), (3), (5), and (6) with the following:

- (2) *ASTM D3034, Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings, DR 35, (Unperforated only),*
- (3) *ASTM F758, Standard Specification for Smooth-Wall Poly(Vinyl Chloride) (PVC) Plastic Underdrain Systems for Highway, Airport, and Similar Drainage, Type PS 46 (Perforated and unperforated)*
- (5) *ASTM D1785, Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 12, Schedule 40, perforated and unperforated as applicable with one of the following:*
  - (a) Perforated: Slotted with maximum slot width of 1/16 inch and minimum slot area of 1.5 inches squared/linear foot for pipe 4 inches in diameter and greater and 1.0 inches squared/linear foot for pipe less than 4 inches in diameter
  - (b) Perforated: Circular holes with 2 to 4 rows of holes. Hole diameter = 3/16 inch - 3/8 inch, and minimum area of holes 1.5 inches squared/linear foot for pipe 4 inches in diameter and greater and 1.0 inches squared/linear foot for pipe less than 4 inches in diameter
  - (c) Unperforated
- (6) *ASTM F949, Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings, (CP) dual-wall, Type “S” (unperforated), or “SP” (perforated) pipe, PS 50*

**S-53 (3278) CORRUGATED POLYETHYLENE DRAINAGE TUBING**

**INITIAL 03/28/25**

SP2025-219

S-53.1 Delete and replace the second and third paragraphs of 3278.2, “Corrugated Polyethylene Drainage Tubing, Requirements,” with the following:

**A Ordinary Corrugated PE Drainage Tubing**

For all uses, except the 2 inch perforated pipe shown on the Bridge approach panel Standard Plan sheets: Provide corrugated (PE) tubing and fittings meeting the requirements of *AASHTO M 252, “Standard Specification for Corrugated Polyethylene Drainage Pipe.”*

Types include Type C, CP (Type C with Class 2 perforations), S, and SP (Type S with Class 1 or Class 2 perforations). Types C and CP are corrugated both inside and outside. Type S and SP are corrugated on the outside and have a smooth inner liner.

Sizes include 3 inch (Type C and CP only), 4 inch, 6 inch, 8 inch, and 10 inch.

Perforations are either Class 1 or Class 2. Class 1 perforations are located on the bottom side of the tubing and are holes only. Class 2 perforations are located around the entire tubing and may be holes or slotted. Unless specified, SP tubing has Class 2 perforations.

**B Perforated pipe located on Bridge Approach Panel Sill**

For the 2 inch perforated pipe on the approach panel sill shown on the Bridge approach panel Standard Plan sheets, provide corrugated and slotted drainpipe meeting the requirements listed in Table 3278.2-1.

**S-54 (3702) PREFORMED JOINT FILLERS**

**NEW 06/27/25**

SP2025-220.1

S-54.1 Add the following to 3702.2, “Requirements:”

- (7) Type F – Preformed Sponge Rubber, Cork, and Recycled PVC meeting the requirements of *ASTM D1752, Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction or Recycled Rubber* and Table 3702.2-1, “Preformed Joint Filler Requirements.”.

S-54.2 Delete and replace Table 3702.2-1 of 3702.2, “Requirements:” with the following:

**Table 3702.2-1  
Preformed Joint Filler Requirements**

| Properties          | Type             |                  |                             |                  |                                 |                             |                             |
|---------------------|------------------|------------------|-----------------------------|------------------|---------------------------------|-----------------------------|-----------------------------|
|                     | A                | B                | C                           | D-1              | D-2                             | E                           | F                           |
| Compression         | 50-1500 psi<br>* | 50-1500 psi<br>* | 50-1500 psi<br>*            | 5-30 psi         | 30-60 psi                       | 100-750 psi<br>*            | 50-2000 psi<br>*            |
| Recovery            | > 90 percent     | > 90 percent     | > 90 percent                | > 95 percent     | > 80 percent                    | > 70 percent                | > 90 percent                |
| Extrusion           | < 0.25<br>inches | < 0.25<br>inches | < 0.25<br>inches            | < 0.25<br>inches | < 0.25<br>inches                | < 0.25<br>inches            | < 0.25<br>inches            |
| Density †           | -                | -                | > 30 pounds<br>/ cubic feet | -                | > 3.5<br>pounds /<br>cubic feet | > 19 pounds<br>/ cubic feet | > 50 pounds<br>/ cubic feet |
| Water<br>Absorption | -                | -                | -                           | -                | < 1 percent                     | < 15 percent                | < 1 percent                 |
| Asphalt<br>Content  | -                | -                | -                           | -                | -                               | > 35 percent                | -                           |
| Expansion           | -                | > 140<br>percent | -                           | -                | -                               | -                           | -                           |

\* To 50% of the original thickness  
 || Compression requirements per ASTM D7174  
 † Air-dried

**S-55 (3721) PREFORMED ELASTOMERIC COMPRESSION JOINT SEALERS FOR CONCRETE**

**INITIAL 03/28/25**

SP2025-221

S-55.1 Delete and replace 3721.2C, “Physical Properties,” with the following:

**Ritter Farm Trailhead & Downtown Lakeville Gateway – City of Lakeville**

Provide joint sealers meeting the requirements of *ASTM D2628, Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements*.

**S-56            (3733) GEOSYNTHETIC MATERIALS**

**REVISED 09/26/25**

SP2025-222

S-56.1            Delete and replace Table 3733.2-1 of 3733.2B, “Geotextiles,” with the following:

**Table 3733.2-1  
Geotextile Properties for Types 1, 3, 4, 5, 6, 7**

| Geotextile Property   | ASTM Test Method<br>Units  | Type * |               |     |     |      |   |     |
|---|----------------------------|--------|---------------|-----|-----|------|---|-----|
|   |                            | 1      |               | 3   | 4   | 5    | 6 | 7 † |
|   |                            | Fabric | Knit sock     |     |     |      |   |     |
| B1 Grab Tensile Strength minimum, each principal direction            | D4632<br>Pounds            | 100    | —             | 100 | 200 | 250  | ‡ | 300 |
| B2 Elongation minimum, each principal direction                       | D4632<br>Percent           | —      | —             | 50  | 50  | —    | ‡ | 50  |
| B3 Seam Breaking Strength minimum #                                   | D4632<br>Pounds            | 90     | —             | 90  | 180 | 180  | ‡ | 270 |
| B4 Apparent Opening Size (AOS) §                                      | D4751<br>U.S. Sieve        | 40     | 40 as applied | 50  | 50  | 30   | ‡ | 50  |
| B5 Permittivity minimum**   | D4491<br>sec <sup>-1</sup> | 0.7    | 2.75 relaxed  | 0.5 | 0.5 | 0.60 | ‡ | 0.5 |
| B6 Puncture strength minimum  | D6241<br>Pounds            | —      | 180           | —   | —   | 1000 | — | —   |
| B7 Wide Width Strip Tensile Strength minimum each principal direction | D4595<br>pounds/feet       | —      | —             | —   | —   | 2460 | ‡ | —   |

\* Minimum Average Roll Values (MARV) based on an average of at least three tests per swatch.

|| Provide socks made of knit polymeric Materials and meeting the requirements of *ASTM D6707-06, Standard Specification for Circular-Knit Geotextile for Use in Subsurface Drainage Applications*, for Type H as given for properties B4, B5, and B6 fabric. Ensure the sock exhibits minimum snag or run potential, is factory-applied to maintain uniform installed mass, and conforms to the outside diameter of the tubing with a snug fit.

† Needle-punched nonwoven. Do not use thermally bonded (heat-set) fabric.

‡ Requirements are project specific and will be as specified in the Contract.

# Adhere to this requirement if the Contract requires or allows seams. Strength Specifications apply to factory and field seams. Use thread for sewing that has the strength of at least 25 pounds. Sew seams with a Federal Type 401 stitch (*ASTM D6193-16, Standard Practices for Stiches and Seams*) using a two-spool sewing machine and install seams facing upward. For seaming with adhesives, see the *Approved/Qualified Products List* available on the Department’s website.

§ For U.S. Sieve sizes, the AOS Number must be equal to or greater than the Sieve size specified.

\*\* Permittivity: P = K/L, where K = fabric permeability and L = fabric thickness.

S-56.2 Delete and replace Table 3733.2-3 of 3733.2B, “Geotextiles,” with the following:

**Table 3733.2-3  
Types 9, 10, 11, and 12 Geotextile Properties**

| Properties   | Test Method              | Unit                      | Type 9                     |       | Type 11 |        | Type 12 |         |
|--|--------------------------|---------------------------|----------------------------|-------|---------|--------|---------|---------|
|  |                          |                           | Minimum Average Roll Value |       |         |        |         |         |
|  |                          |                           | MD                         | CD    | MD      | CD     | MD      | CD      |
| Tensile Strength at Ultimate   | ASTM D4595               | lbs/ft                    | 3,500                      | 3,200 |         |        |         |         |
| Tensile Strength @ 2 Percent Strain  | ASTM D4595               | lbs/ft                    |                            |       | 600     | 1,000  | 480     | 1,800   |
| Tensile Strength @ 5 Percent Strain  | ASTM D4595               | lbs/ft                    |                            |       | 1,800   | 2,200  | 1,400   | 4,300   |
| Cyclic Tensile Modulus @ 2 Percent Strain  | ASTM D7556<br>“Method C” | lbs/ft                    |                            |       | 50,000  | 70,000 | 50,000  | 120,000 |
| Interaction Coefficient: Ci*   | ASTM D6706               |                           |                            |       | 0.89    |        | 0.90    |         |
| Properties   | Test Method              | Unit                      | Maximum Roll Value         |       |         |        |         |         |
| Apparent Opening Size (AOS)  | ASTM D4751               | U.S. Sieve                | 30                         |       | 40      |        | 40      |         |
| Properties   | Test Method              | Unit                      | Minimum Average Roll Value |       |         |        |         |         |
| Permittivity   | ASTM D4491               | sec <sup>-1</sup>         | 0.5                        |       | 0.90    |        | 0.90    |         |
| Flow Rate  | ASTM D4491               | gal/min/ft <sup>2</sup>   | 40                         |       | 75      |        | 75      |         |
| Properties   | Test Method              | Unit                      | Minimum Roll Value         |       |         |        |         |         |
| UV Resistance<br>(at 500 hours exposure)   | ASTM D4355               | Percent Strength Retained | 70                         |       | 90      |        | 90      |         |
| Seam Breaking Strength   | ASTM D4884               | Pounds/inch               | 200                        |       |         |        |         |         |
| For Type 10, meet the requirements of AASHTO M288 Class 4A – Geotextile.   |                          |                           |                            |       |         |        |         |         |
| * Perform test with a normal pressure of 1.0 psi. Use material in the mold consisting of GW or SP with a maximum internal angle of friction of 34 degrees.                           |                          |                           |                            |       |         |        |         |         |
| If required, use thread with a minimum strength of 25 pounds. Sew seams with a ASTM D6193 Federal Type 401 stitch using a two-spool sewing machine, and install seams facing upward. |                          |                           |                            |       |         |        |         |         |

S-56.3 Delete and replace Table 3733.2-5 of 3733.2B, “Geotextiles,” with the following:

**Table 3733.2-5  
Geogrid Properties**

| <b>Geogrid Property</b>  | <b>ASTM Test Method<br/>Units</b> | <b>Type 1</b> | <b>Type 2</b> |
|--|-----------------------------------|---------------|---------------|
| Ultimate Tensile Strength minimum,<br>MD direction   | <i>D6637*</i><br>pound/foot       | 850           | 1300          |
| Ultimate Tensile Strength minimum,<br>XMD direction  | <i>D6637*</i><br>pound/foot       | 1300          | 1950          |
| Tensile Strength at 5 percent Strain<br>minimum MD Direction   | <i>D6637*</i><br>pound/foot       | 550           | 800           |
| Tensile Strength at 5 percent Strain<br>minimum XMD Direction  | <i>D6637*</i><br>pound/foot       | 900           | 1300          |
| Resistance to UV Degradation   | <i>D4355</i>   <br><i>Percent</i> | 90            | 90            |
| Grid Aperture Size MD  | <i>Nominal<br/>Inches</i>         | 1.0           | 1.0           |
| Grid Aperture Size XMD   | <i>Nominal<br/>Inches</i>         | 1.3           | 1.3           |
| <p>* <i>ASTM D6637, Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Tensile Method</i><br/>                        <i>ASTM D4355, Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc-Type Apparatus</i></p> |                                   |               |               |

**S-57            (3876) SEED**

**INITIAL 03/28/25**

SP2025-223

S-57.1 Delete and replace Table 3876.2-1 of 3876.2A.1, “Standard Seed Mixes,” with the following:

**Table 3876.2-1  
MnDOT Seed Mixes**

| <b>Seed Mixture</b>           | <b>Application Rate<br/>(PLS pounds per acre)</b> |
|-------------------------------|---|
| Oats                          | 100   |
| Winter Wheat                  | 100   |
| Oats and Peas                 | 110   |
| Two-year Cover Crop           | 25  |
| Patch Mix                     | 30  |
| Northern Boulevard            | 150   |
| Southern Boulevard            | 160   |
| Turfgrass                     | 200   |
| Snow Fence Ground Cover       | 84  |
| Mesic Inslope                 | 65  |
| High-traffic Inslope          | 60  |
| Sandy Inslope                 | 65  |
| Wet Ditch                     | 20  |
| Northeast Roadside            | 26  |
| Northwest Shortgrass Roadside | 26  |
| Northwest Tallgrass Roadside  | 26  |
| Southern Shortgrass Roadside  | 26  |
| Southern Tallgrass Roadside   | 26  |

S-57.2 Delete and replace 3876.2 B, “Blending,” with the following:

**B Blending**

Provide Uniformly blended seed mixtures as required by the Contract and meeting the requirements of the Seeding Manual. Blend mixtures according to the requirements of the Department’s Approved Seed Vendor Agreement.

**B.1 Cover crop and turfgrass mixtures**

Combine all components of cover crop, patch, boulevard, turfgrass, ground cover, and inslope mixtures.

**B.2 Roadside and Wet Ditch mixtures**

Blend and package components of these mixtures according to size to allow installation from the appropriate seed box of native seeding Equipment and in the following groups:

- (1) Combine seeds of sedges, rushes, and forbs with small or medium seeds for installation with the small seeds box.
- (2) Combine the seeds of grasses and large-seeded forbs for installation with the fluffy seed box.
- (3) Keep the seeds of grain cover crops such as oats and winter wheat separate for installation with the grain box.

**APPENDIX A**

**GEOTECHNICAL REPORT**



# GEOTECHNICAL REPORT

## LAKE MARION GREENWAY PHASE I

LAKEVILLE, MINNESOTA

September 2, 2025

Prepared for:  
City of Lakeville  
20195 Holyoke Avenue  
Lakeville, MN 55044

WSB PROJECT NO. 027938-000



# GEOTECHNICAL REPORT

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## LAKE MARION GREENWAY PHASE I

FOR THE CITY OF LAKEVILLE

September 2, 2025



# GEOTECHNICAL REPORT

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## 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.

  
\_\_\_\_\_  
Mark W. Osborn, PE

Date: September 2, 2025

Lic. No. 41362



September 2, 2025

Jon Nelson  
Assistant City Engineer  
20195 Holyoke Avenue  
Lakeville, MN 55044

Re: Geotechnical Report  
Lake Marion Greenway Phase I  
WSB Project No.: 027938-000

We have conducted a geotechnical subsurface exploration program for the above-mentioned project. This report contains our soil boring logs, an evaluation of the conditions encountered in the borings and our recommendations for building foundations, retaining wall foundations, subgrade improvements, trail pavement design, parking lot design, and other geotechnical related design and construction considerations.


If you have questions concerning this report or our recommendations, or regarding construction material testing for this project, please call us at 952.737.4660.

Sincerely,

WSB



Mark Osborn, PE  
Senior Geotechnical Engineer



Alex Wacek, EIT  
Geotechnical Engineering Specialist

Attachment:  
Geotechnical Report

MWO/ams

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TITLE SHEET

CERTIFICATION SHEET

LETTER OF TRANSMITTAL

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## Appendix A

Soil Boring Exhibit

Logs of Test Borings

Symbols and Terminology on Test Boring Log

Notice to Report Users Boring Log Information

Unified Soil Classification System (USCS)

Concrete Core Pictures

# 1. INTRODUCTION

## 1.1 Project Location

The site is located in Lakeville, Minnesota. The current phase of the project will start in downtown Lakeville and end in Ritter Farm Park. The approximate soil boring, pavement core, and hand auger locations can be found on the Soil Boring Exhibit in **Appendix A**.

## 1.2 Project Description

It is proposed to improve the existing trail system as well as expand its current footprint.

We understand that the vertical and horizontal alignment of the trail will remain similar to existing conditions.

WSB has developed recommendations for this project in consideration of the proposed layout and configurations as understood at this time. When the designer develops additional information about final design or other significant factors, the recommendations presented herein may no longer apply. WSB should be made aware of the revised or additional information in order to evaluate the recommendations for continued applicability.

## 1.3 Purpose and Project Scope of Services

The City of Lakeville authorized this scope of service. In order to assist the design team in preparing plans and specifications, we have developed recommendations for designing subgrades and pavements. As such, we have completed a subsurface exploration program and prepared a geotechnical report for the referenced site. This stated purpose was a significant factor in determining the scope and level of service provided. Should the purpose of the report change the report immediately ceases to be valid and use of it without WSB's prior review and written authorization should be at the user's sole risk.

Our authorized scope of work has been limited to:

1. Clearing underground utilities utilizing Gopher State One Call.
2. Mobilization / demobilization of a truck mounted drill rig.
3. Drilling 1 standard penetration boring to a depth of about 20 feet.
4. Drilling 18 standard penetration boring to a depth of about 5 feet.
5. Drilling 6 hand augers to a depth of about 3 feet.
6. Sealing the borings per Minnesota Department of Health procedures.
7. Perform soil classification and analysis.
8. Review of available project information and geologic data.
9. Providing this geotechnical report containing:
  - a. Summary of our findings.
  - b. Discussion of subsurface soil and groundwater conditions and how they may affect the proposed pavements.
  - c. Recommended pavement section.
  - d. A discussion of soils for use as structural fill and site fill.
10. Core bituminous pavement at 5 locations and provide report containing:
  - a. Data obtained from coring, including pictures of each core.

## 2. PROCEDURES

### 2.1 Boring/Core Layout and Soil Sampling Procedures

WSB completed 19 standard penetration soil borings, 6 hand auger soil borings, and 5 bituminous pavement cores at the project site. WSB recommended the boring depths and selected the desired locations. Our field crew staked the borings using the supplied site plan. The borings were located with a handheld GPS device for horizontal locations. The approximate boring locations are shown on the Soil Boring Exhibit in **Appendix A** which is an aerial photo. The ground surface elevations at the borings were estimated by using LIDAR data with 2-foot contours. These maps should be accurate to within +/- one foot (1') provided ground surface modifications at this site have not been completed since LIDAR data was obtained.

We completed the borings on June 18, 19, and 20, and July 10, 2025, with a truck-mounted CME-45 drill rig operated by a two-person crew, and a bucket-style hand auger operated by a single person. The drill crew advanced the borings using continuous hollow stem augers. The drilling information is provided on the boring logs.

The drill crew sampled the soil in advance of the auger tip at two and one-half (2 ½) foot intervals to a depth of 15 feet and then at five (5) foot intervals thereafter to the termination depth of the boring. The soil samples were obtained using a split-barrel sampler which was driven into the ground during standard penetration tests in accordance with ASTM D 1586, Standard Method of Penetration Test and Split-Barrel Sampling of Soils. Hand auger borings were drilled and straight pulled to obtain soil samples directly from the auger bucket. The materials encountered were described on field logs and representative samples were containerized and transported to our laboratory for further observation and testing.

The samples were visually observed to estimate the distribution of grain sizes, plasticity, consistency, moisture condition, color, presence of lenses and seams, and apparent geologic origin. We classified the soils according to type using the Unified Soil Classification System (USCS). A chart describing the USCS is included in **Appendix A**.

The bituminous core drilling was conducted with a truck mounted core drill utilizing a 4" diameter core barrel. The bituminous cores were labeled, photographed and retained for further review at the laboratory. After extracting the bituminous core, an auger was used to measure aggregate base thickness, and the underlying subgrade was sampled and visually identified. During coring operations, the field crew also noted the conditions witnessed in the field including surface distresses and drainage conditions. A spreadsheet containing this information is included in **Appendix A**.

### 2.2 Groundwater Measurements and Borehole Abandonment

The drill crew observed the borings for free groundwater while drilling and after completion of the borings. These observations and measurements are noted on the boring logs. The crew then backfilled the borings to comply with Minnesota Department of Health regulations.

### 2.3 Boring Log Procedures and Qualifications

The subsurface conditions encountered by the borings are illustrated on the Logs of Test Borings in **Appendix A**. Similar soils were grouped into the strata shown on the boring logs, and the appropriate estimated USCS classification symbols were also added. The depths and thickness of the subsurface strata indicated on the boring logs were estimated from the drilling results.

The transition between materials (horizontal and vertical) is approximate and is usually far more gradual than shown. Information on actual subsurface conditions exists only at the specific locations indicated and is relevant only to the time the exploration was performed. Subsurface conditions and groundwater levels at other locations may differ from conditions found at the indicated locations. The nature and extent of these conditions would not become evident until exposed by construction excavation. These stratification lines were used for our analytical purposes and due to the aforementioned limitations, should not be used as a basis of design or construction cost estimates.

### **3. EXPLORATION RESULTS**

#### **3.1 Site and Geology**

The borings were drilled on paved surfaces, gravel surfaces, as well as in greenspace.

Boring elevations ranged from about 966.0 to 1018.0 feet. The highest elevation noted was at the location of Boring B-11, near the intersection of Kenrick Avenue and 195<sup>th</sup>. The lowest elevation noted was at the location of Boring B-27, near the intersection of Howland Avenue West and 209<sup>th</sup> Street West.

Geologic origins can be difficult to determine solely from boring samples. We referenced online geologic data of the area and used our experience to help determine geologic origin of the soils, however only a detailed geologic exploration would accurately determine the geologic history of the site.

The Dakota County Geologic Atlas indicates the surficial geology of the area is mostly glacial deposits, consisting of fine to coarse grained sands with gravel, as well as unsorted mixtures of sands, silts, and clays.

#### **3.2 Subsurface Soil and Groundwater Conditions**

The boring profile generally consisted of a pavement section, or topsoil materials, overlying fill, all of which were underlain by glacial deposits.

##### Pavement Section

The pavement section encountered in the borings consisted of 2 – 6 inches of bituminous pavement overlying 2 – 12 inches of aggregate base. Pavement Cores encountered 3 - 8 inches of bituminous pavement. An aggregate base layer of crushed limestone was encountered in Borings B-7, B-17, and B-24.

##### Topsoil

The topsoil encountered in the borings and hand augers consisted of 4 – 12 inches of clayey sands, lean clays, sand with clay, and silt. These soils were slightly organic, brown and dark brown in color and were moist to wet. Sand with clay was encountered within the vegetated root zone in Hand Auger HA-11. Silt was encountered within the vegetated root zone in Boring B-25.

##### Fills

The fills encountered in the borings generally consisted of a mixture of sands, clayey sands, and lean clays, and were 2 – 6 feet in thickness where encountered. Since the scope of work included drilling and sampling to a depth of 6 feet for trails, several borings were terminated in backfilled materials.

##### Organics

Several soils were encountered during drilling operations that appeared to be organic. An organic content test was performed on a sample from Borings B-18, B-19, and B-22. The results were 4.8%, 5.8%, and 5.0%, respectively. According to the MnDOT Geotechnical Manual, 2 – 5% organic content is considered slightly organic, 6 – 10% organic content is considered organic.

The organic soils encountered in the borings were dark brown in color and ranged from 1 to 2½ feet in thickness.

Boring Profiles

Table 1 below presents the existing roadway pavement section and subgrade profiles.

**Table 1: Existing Profiles**

| Boring No. | Bituminous Thickness (inches) | Aggregate Base Thickness (inches) | Subgrade Soils (Upper 4 feet)                           |
|------------|-------------------------------|-----------------------------------|---|
| B-1        | Topsoil: 12                   |                                   | Lean Clay, Sand   |
| B-2        | Topsoil: 12                   |                                   | Clayey Sand, Lean Clay                                  |
| B-3        | n/a                           | 8                                 | Sand with Gravel (fill), Clayey Sand, Sand              |
| HA-4       | Topsoil: 4                    |                                   | Clayey Sand (obstructed at 1 foot)                      |
| HA-5       | Topsoil: 6                    |                                   | Lean Clays, Clayey Sands                                |
| B-6        | Topsoil: 7                    |                                   | Lean Clay (fill), Clayey Sand (fill)                    |
| B-7        | n/a                           | 12*                               | Sand with Gravel  |
| B-8        | 5                             | 12                                | Sand (fill), Clayey Sand (fill), Sand (fill)            |
| B-9        | Topsoil: 10                   |                                   | Clayey Sand (fill), Sand with Gravel                    |
| HA-10      | Topsoil: 8                    |                                   | Clayey Sand, Lean Clay                                  |
| HA-11      | Topsoil: 4                    |                                   | Sand with Clay, Sand with Gravel (obstructed at 2 feet) |
| B-15       | 4                             | 10                                | Clayey Sand (fill), Sand with Gravel (fill)             |
| B-16       | 5                             | 8                                 | Sand (fill), Sandy Lean Clay (fill), Clayey Sand        |
| B-17       | 4                             | 8*                                | Clayey Sand with Gravel (fill)                          |
| B-18       | 4                             | 2                                 | Sandy Lean Clay (fill), Clayey Sand (fill), Sand (fill) |
| B-19       | 2                             | 4                                 | Sand (fill), Clayey Sand (fill), Organic Clay           |
| B-20       | 6                             | 2                                 | Sand with Gravel  |
| B-21       | 6                             | 2                                 | Sand with Gravel  |
| B-22       | Topsoil: 6                    |                                   | Slightly Organic Clayey Sand (fill), Sand               |
| B-23       | Topsoil: 4                    |                                   | Sand with Gravel  |
| B-24       | 5                             | 7*                                | Sand with Clay, Clayey Sand                             |
| B-25       | Topsoil: 6                    |                                   | Clayey Sand, Sand with Gravel                           |
| HA-26      | Topsoil: 6                    |                                   | Sand with Clay, Clayey Sand, Lean Clay                  |
| B-27       | Topsoil: 12                   |                                   | Clayey Sand (fill)                                      |
| HA-30      | Topsoil: 6                    |                                   | Clayey Sand   |

\* Aggregate base material appeared to be crushed limestone

Table 2 below presents the existing pavement thicknesses recovered from coring operations.

**Table 2: Roadway Coring Profiles**

| <b>Coring No.</b> | <b>Bituminous Thickness (inches)</b> |
|-------------------|--------------------------------------|
| C-12              | 8                                    |
| C-13              | 8                                    |
| C-14              | 3                                    |
| C-28              | 3.5                                  |
| C-29              | 3                                    |

### 3.3 Strength Characteristics

The penetration resistance N-values of the materials encountered were recorded during drilling and are indicated as blows per foot (BPF). Those values provide an indication of soil strength characteristics and are located on the boring log sheets. Also, visual-manual classification techniques and apparent moisture contents were also utilized to make an engineering judgment of the consistency of the materials.

Table 3 presents a summary of the penetration resistances (N-value which are indicated by Blows Per Foot BPF) in the soils for the borings completed and remarks regarding the material strengths of the soils.

**Table 3: Penetration Resistances**

| <b>Soil Type</b>       | <b>Soil Classification</b> | <b>Penetration Resistances</b> | <b>Remarks</b>                     |
|------------------------|----------------------------|--------------------------------|------------------------------------|
| Fill (cohesionless)    | SP, SP-SC, SC              | 3 – 38 BPF                     | Generally poorly to well compacted |
| Fill (cohesive)        | CL                         | 3 – 6 BPF                      | Generally poorly compacted         |
| Glacial (cohesionless) | SP, SP-SC, SC              | WOH to 26 BPF                  | Very loose to medium dense         |
| Glacial (cohesive)     | CL, OL                     | 2 – 6 BPF                      | Very soft to soft                  |

The preceding is a generalized description of soil conditions at this site. Variations from the generalized profile exist and should be assessed from the boring logs, the normal geologic character of the deposits, and the soils uncovered during site excavation.

### 3.4 Groundwater Conditions

WSB took groundwater level readings in the exploratory borings, reviewed the data obtained, and discussed its interpretation of the data in the text of the report. Note that groundwater levels may fluctuate due to seasonal variations (e.g., precipitation, snowmelt, and rainfall) and/or other factors not evident at the time of measurement.

Table 4 below is a summary of the estimated water levels at our borings.

**Table 4: Groundwater Measurements**

| <b>Boring No.</b> | <b>Ground Surface Elevation</b> | <b>Estimated Depth to Groundwater</b> | <b>Estimated Depth of Gray Colored Soils</b> | <b>Estimated Groundwater Elevation</b> |
|-------------------|---------------------------------|---------------------------------------|--|--|
| B-1               | 994                             | 7                                     | 12   | 987                                    |
| B-2               | 990                             | 5                                     | n/a  | 985                                    |
| B-3               | 1014                            | n/a                                   | n/a  | Below 1008                             |
| HA-4              | 1011                            | n/a                                   | n/a  | Below 1010                             |
| HA-5              | 997                             | n/a                                   | n/a  | Below 994                              |
| B-6               | 1005                            | n/a                                   | n/a  | Below 999                              |
| B-7               | 1010                            | n/a                                   | n/a  | Below 1004                             |
| B-8               | 1017                            | n/a                                   | n/a  | Below 1011                             |
| B-9               | 1017                            | n/a                                   | n/a  | Below 1011                             |
| HA-10             | 1017                            | n/a                                   | n/a  | Below 1014                             |
| HA-11             | 1018                            | n/a                                   | n/a  | Below 1016                             |
| B-15              | 996                             | n/a                                   | n/a  | Below 990                              |
| B-16              | 1001                            | n/a                                   | n/a  | Below 1001                             |
| B-17              | 985                             | n/a                                   | n/a  | Below 979                              |
| B-18              | 987                             | n/a                                   | n/a  | Below 981                              |
| B-19              | 983                             | n/a                                   | n/a  | Below 977                              |
| B-20              | 979                             | n/a                                   | n/a  | Below 973                              |
| B-21              | 982                             | n/a                                   | n/a  | Below 976                              |
| B-22              | 976                             | n/a                                   | n/a  | Below 970                              |
| B-23              | 975                             | n/a                                   | n/a  | Below 969                              |
| B-24              | 975                             | n/a                                   | n/a  | Below 969                              |
| B-25              | 972                             | n/a                                   | n/a  | Below 966                              |
| HA-26             | 968                             | n/a                                   | n/a  | Below 965                              |
| B-27              | 966                             | n/a                                   | n/a  | Below 960                              |
| HA-30             | 984                             | n/a                                   | n/a  | Below 981                              |

n/a – indicates ground water was not encountered. Elevations are rounded to the highest ½ foot.

Groundwater was encountered during the drilling process in borings B-1 and B-2; however, moist to wet soils were noted. Gray colored soils were encountered in Boring B-1. Gray colored soils can be an indication of long-term saturation conditions and could show potential groundwater elevations. The shallow groundwater could present an issue to excavations and placement of subgrade materials. It is

our opinion that wet soils, waterbearing sand lenses, and perched groundwater could be encountered at this site and could affect construction of pavement subgrades.

Lake Marion is adjacent to much of the project. According to online data from the Minnesota Department of Natural Resources, Lake Marion has an ordinary high-water level of 978 feet.

The bore holes were only left open for a short period of time, and groundwater levels may not have stabilized.

It should be noted that groundwater readings are difficult to obtain in cohesive soils such as the lean clays indicated in the boring logs. These soils have a low permeability and take a long period of time to obtain groundwater readings in. If more accurate subsurface water levels are needed, we recommend piezometers be installed to determine the groundwater level over several months. Monitoring groundwater table elevation could occur up to the time of construction. This work was outside our scope of services.

## **4. ENGINEERING ANALYSIS AND RECOMMENDATIONS**

### **4.1 Discussion**

Organic soils and vegetated root zones are poorly suitable for structural support and the best practice is to remove these soils from the construction areas. However, we understand that complete removal of organic soils below trail pavements may be cost prohibitive and have provided alternate recommendations for leaving some organic materials in-place. The client should be aware of the increased risks of total and differential settlement with this option.

Some of the soils encountered in the borings were wet. Wet soils encountered in our borings will likely be wet when excavated and require significant drying prior to reuse as structural backfill and fill. Drying of wet clayey soils is generally accomplished via discing and drying which requires time and an area to place and spread the wet soils. Alternate options such as excavation and replacement of wet soils or chemical stabilization/drying such as the use of lime may be considered. We suggest the contractors bidding on the work have a soil moisture conditioning plan to allow for reuse of as much onsite soils as possible and to reduce import of sand. A cost for removal of wet clays and replacement with a granular fill should also be provided.

No information was provided to us regarding density tests or excavation observations for the existing fills encountered at the boring locations. Generally, fills that are not documented are recommended for removal and replacement with an engineered fill. Construction on existing fills has a higher risk of differential settlement. The best option would be complete removal of the existing fill materials, and replacement with engineered fill. However, trails are generally at a low risk and existing fills below pavement areas were likely placed with the intention of supporting pavement loads. We have provided alternate recommendations including partial removal of wet or poor subgrade fill materials but not complete removal. The client should be aware of the slightly increased risk of total and differential settlements from this option.

Based on the results of our borings, the glacially deposited soils generally appear capable of supporting the roadway, pavements, and structure. Partial excavations may be necessary of the wet, soft clayey soils.

Based on the borings, planned excavations for foundations and pavements are not expected to encounter groundwater.

Generally, the soils in the upper 4 feet of the subgrade influence pavement performance the most. The soils within the pavement subgrade included clayey soils, which are frost susceptible soils. Consideration should be given to partially or fully subcutting these soils and replacing them with a non-frost susceptible granular fill to reduce the potential frost heave below the pavement section.

### **4.2 Building Area Preparation**

We recommend removal of the organics from the building area. Boring B-1 noted about 12 inches of organic materials.

Excavations for bottom of footing are expected to be into suitable sand soils. Loose/loosened sands either at bottom of footing or slab subgrade elevations should be surface compacted with a large vibratory roller having a drum diameter of at least five feet (5') and a static dead weight of at least ten (10) tons prior to placement of engineered fill (MnDOT 2106.2.B.1) and backfill or concrete. Vibration should not be used on saturated soils or soft clays as it will cause a pumping effect.

Excavations for removal of unsuitable soil or organics may be deeper than indicated in our boring locations noted above, and depths will vary between the boring locations.

At the base of footing excavations, if wet silt or clay soils are loose/soft or become loose/soft under construction traffic they should be subcut. We recommend the wet, loose/soft silt or clay soils be subcut two feet (2') below the base of wall footings and below column footings to a depth of half (1/2) the width of the column footings. The sub-excavations should be oversized by at least one foot (1') beyond the edge of footings for each foot of depth below the bottom of footing elevations (1-horizontal to 1-vertical lateral oversizing). Because the depth and lateral extent of the sub-excavations will vary away from our borings, we recommend a qualified engineering technician working under the direction of a registered professional geotechnical engineer observe and test the excavation bases during construction.

Based on the borings, it appears that the on-site granular soils can generally be reused as structural backfill provided it is moisture conditioned and can be compacted to project specifications.

Based on the borings, it is our opinion the footings throughout may be designed for a net allowable soil bearing pressure not to exceed 2,500 pounds per square foot (psf).

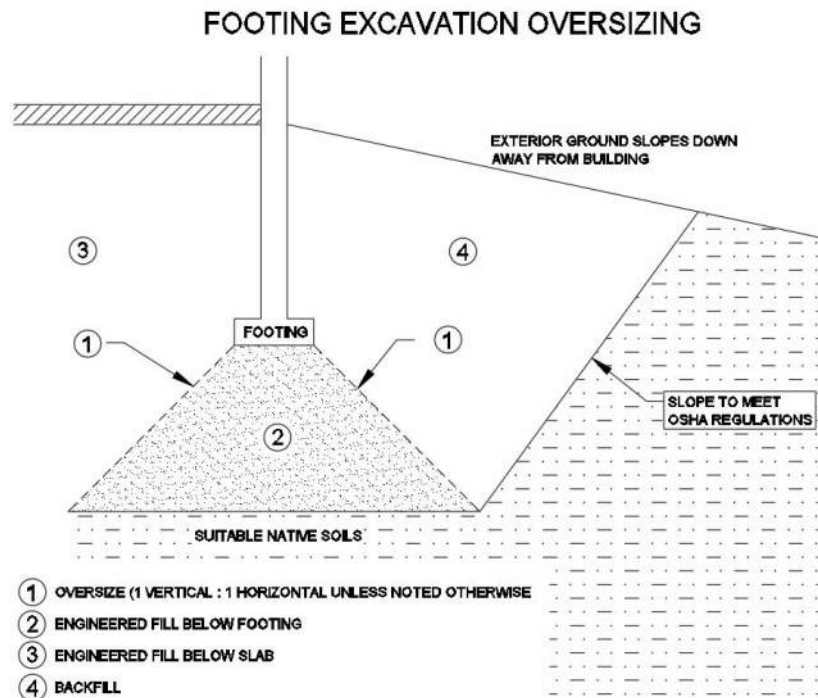
The allowable foundation bearing pressures apply to dead loads with design live load conditions. The design bearing pressure may be increased by one-third when considering transient loads which include wind or seismic conditions.

Frost protection should follow Minnesota Administrative Rules 1305.1809. Perimeter building footings should be based at least 42 inches below adjacent exterior grade for frost protection. We recommend unheated garage or deck footings should be placed at least five feet (5') below adjacent exterior grade.

The factor of safety against shear or bearing capacity failure for this footing design would be three (3) or greater. If the site is prepared as recommended, we estimate that total and differential settlements (across a 30-foot span) corresponding to our assumed structural loads would be less than one inch (1") and one-half inch (1/2"), respectively, provided the bearing soils are not frozen or disturbed at the time of construction.

Figure 1 below indicates a graphical representation of a typical footing excavation oversizing.

**FIGURE 1**



### 4.3 Backfill and Fill Selection and Compaction

The on-site non-organic soils may be reused as backfill and fill provided they are moisture conditioned and can be compacted to their specified densities. Wet soils that are excavated would need to be dried before being reused as an engineered fill. We recommend using a minimum of 2 feet of clean coarse sand with less than 50 percent passing the #40 sieve and less than 5 percent passing the #200 sieve when backfilling the bottom of a wet excavation.

Gravel or cobbles larger than 2 inches in diameter should not be placed within 2 feet of grading grade or utilities. We recommend that clayey soils be moisture conditioned to within +/-2 percent of the optimum moisture content as determined from their standard Proctor tests (ASTM D-698). Granular fills should be moisture conditioned to between -4% and +2% of the optimum moisture content. Fill should be spread in lifts of 6 inches, depending on the size and type of compaction equipment used.

Fills below pavements and foundations should consist of engineered fill per (MnDOT 2106.2.B.1).

Table 5 provides the recommended compaction levels.

**Table 5: Recommended Level of Compaction for Backfill and Fill**

| Area  | Percent of Standard Proctor Maximum Dry Density |
|---|---|
| Foundations, 2,500 psf                              | 97  |
| Pavement: Within 3 feet of bottom of aggregate base | 100   |
| Pavement: Greater than 3 feet below aggregate base  | 95  |
| Landscaping (non-structural)                        | 90  |

### 4.4 Retaining Walls

The retaining walls are planned along borings B-15, B-16, and B-17, as well as along borings HA-26 and B-27 in the eastern parking lot. These borings encountered existing pavements and fill materials consisting of a mixture of clays and sands, overlying mostly native clayey sands or sands with clay. The fills and native soils appeared suitable for support of the retaining walls. We estimated these soils as being able to support foundation loads of up to 2,000 psf.

At the base of footing excavations, if wet silt or clay soils are loose/soft or become loose/soft under construction traffic they should be subcut. We recommend the wet, loose/soft silt or clay soils be subcut two feet (2') below the base of wall footings and below column footings to a depth of half (1/2) the width of the column footings. The sub-excavations should be oversized by at least one foot (1') beyond the edge of footings for each foot of depth below the bottom of footing elevations (1-horizontal to 1-vertical lateral oversizing).

To help prevent water from accumulating behind retaining walls in clayey soils, we recommend drain tiles be placed at the base of the footings. To promote water migration to the drain tile, we recommend either a drainage composite be placed against the back side of the wall or at least two feet (2') (horizontally) of clean coarse sand be placed along the back of the wall. We recommend the upper foot of backfill consist of clayey soils to act as a "cap" and reduce water infiltration into the backfill soils. The drain tile should be connected to the storm sewer system or "daylighted" to suitable disposal areas.

To assist in retaining wall design Table 6 below presents estimated soil parameters for common backfill soils. The coefficients presented below assume a near level or slightly sloping away backfill (<5%) at the top of wall. If the backfill is sloped greater than that, these values may change moderately. Silt (ML) is not recommended as backfill for walls.

**Table 6: Estimated Soil Parameters for Below Grade/Retaining Wall Design**

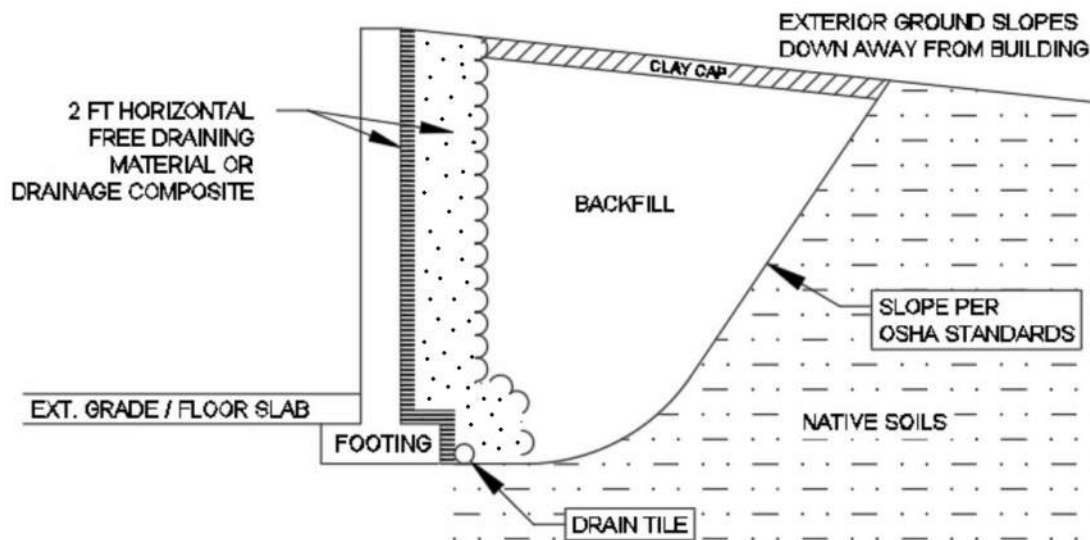
| Soil Type | Unit Weight pcf | Cohesion | Adhesion | Angle of Internal Friction | EFW Active psf/ft | EFW Passive psf/ft | EFW At-Rest psf/ft |
|-----------|-----------------|----------|----------|----------------------------|-------------------|--------------------|--------------------|
| SP, SP-SM | 120             | ---      | ---      | 32                         | 35                | 400                | 55                 |
| SM, SC    | 125             | ---      | ---      | 30                         | 40                | 375                | 65                 |
| CL        | 120             | 1000     | 700      | 24                         | 50                | 280                | 70                 |

\* - Parameters do not include safety factors.  
EFW = Equivalent Fluid Weight

Figure 2 below indicates a graphical representation of a typical below grade / retaining wall structure.

**FIGURE 2**

**BELOW GRADE / RETAINING WALLS**



**4.5 Pavement Subgrade Preparation and Stability**

We recommend excavation of organics below the pavement areas.

The stability of the pavement subgrade should be evaluated prior to placement of the sand subbase using the test roll procedure (MnDOT 2111), except a fully loaded tandem axle dump truck or a full water truck should be utilized for the test roll. If unstable soils are found under the test roll, these soils should be improved by means of scarification, moisture conditioning, and re-compaction, or by subcutting and replacement.

**4.6 Pavement Area**

Once the site has been prepared as recommended, we anticipate the prepared subgrade soils will consist mostly of sands, clayey sands, and lean clays.

We recommend surficial compaction of the granular soils before placement of a bituminous trail. Compaction should occur with a minimum 10-ton vibratory roller with a minimum width of 5 feet.

Table 7 below indicates our recommendations for the new bituminous trail section.

**Table 7: New Bituminous Trail: Recommended Flexible Pavement Section**

| Section  | Thickness (inches) |
|--|--------------------|
| Bituminous Course, MnDOT 2360 SPWEB230C        | 1.5                |
| Bituminous Course, MnDOT 2360 SPNWB230C        | 1.5                |
| Aggregate Base, MnDOT 3138 (Class 5, 5Q, or 6) | 6                  |

Table 8 below indicates our recommendations for the reconstructed bituminous trail section. We understand that a 3-inch mill and overlay is planned through the existing pavement and aggregate base materials. Core C-14 noted 3 inches of bituminous asphalt along the trail indicating that mill and overlay operations may

**Table 8: Reconstructed Bituminous Trail: Recommended Flexible Pavement Section**

| Section          | Thickness (inches) |
|------------------|--------------------|
| Mill and Overlay | 3                  |

Table 9 below indicates our recommendations for the reclaimed bituminous trail section. We understand the existing bituminous material will be removed before widening of the trail. The existing bituminous material will then be placed as reclaim for the widened path along with new bituminous pavement materials as needed.

**Table 9: Reconstructed / Widened Bituminous Trail: Recommended Flexible Pavement Section**

| Section  | Thickness (inches) |
|--|--------------------|
| Reclaim Bituminous Material                    | 3                  |
| Aggregate Base, MnDOT 3138 (Class 5, 5Q, or 6) | 6                  |

The soils in the parking lots at the trailhead and at the trail end consisted mostly of sands and clayey sands. These soils appeared generally suitable for support of parking lot pavements. Table 10 below indicates our recommendations for the new parking lot bituminous section.

**Table 10: New Bituminous Parking Lots: Recommended Flexible Pavement Section**

| Section  | Thickness (inches) |
|--|--------------------|
| Bituminous Course, MnDOT 2360 SPWEB330C        | 2                  |
| Bituminous Course, MnDOT 2360 SPNWB330C        | 2                  |
| Aggregate Base, MnDOT 3138 (Class 5, 5Q, or 6) | 8                  |

#### Kenrick - Widened Roadway Areas

We recommend removal of all organic soils in the widening areas. MnDOT 2106.3.D recommends that when embankment slopes are steeper than 1:4 (V:H), construct steps before placing embankment material. The steps should be constructed with a minimum width of 12 inches and a maximum height of 24 inches.

Fills placed to raise the widened embankment area to grade should consist of soils similar to the soils that will be below the existing pavement section. This will allow for similar frost heave movements and reduce the potential for differential settlements between the existing roadway and the new widened shoulders.

Once the site has been prepared as recommended, we anticipate the prepared subgrade soils will consist mostly of sands with gravel, and clayey sands. Based on the MnDOT Flexible Pavement Guide from 2020, the R-values of the subgrade soils would range between 20 and 70. We used a design R-value of 30 for the roadway.

We used historical traffic data from the MnDOT Traffic Mapping Application to determine the estimated Equivalent Single Axle Loads (ESAL's) for roadway design to be approximately 3,016,000. Our design is based on a standard twenty (20) year design life of the rural pavement section and a 10-ton road design.

Based on MnDOT's FlexPave excel design utilizing granular equivalent charts, we recommend the pavement section indicated below in Table 11.

**Table 11: Recommended Flexible Pavement Section**

| Section                                 | Thickness (inches) | Granular Equivalent |
|---|--------------------|---------------------|
| Bituminous Course, MnDOT 2360 SPWEA440C | 2                  | 4.5                 |
| Bituminous Course, MnDOT 2360 SPWEA440C | 2                  | 4.5                 |
| Bituminous Course, MnDOT 2360 SPNWB430C | 2                  | 4.5                 |
| Aggregate Base, MnDOT 3138 (Class 5)    | 9                  | 9                   |
| Select Granular, MnDOT 3149.2.B         | 12                 | 6                   |
| Subgrade Preparation, MnDOT 2112        | Yes                | -                   |
| TOTAL                                   | -                  | 28.5                |

195<sup>th</sup> Street Paving

195<sup>th</sup> Street located west of Interstate 35 is currently gravel surfaced at the intersection with Ritter Park Trail and will be upgraded to be bituminous pavement section. Traffic loads were unknown but are expected to be mostly residential and park traffic.

Based on MnDOT's FlexPave excel design utilizing granular equivalent charts, we recommend the pavement section indicated below in Table 12.

**Table 12: Recommended Flexible Pavement Section**

| Section                                 | Thickness (inches) | Granular Equivalent |
|---|--------------------|---------------------|
| Bituminous Course, MnDOT 2360 SPWEA440C | 2                  | 4.5                 |
| Bituminous Course, MnDOT 2360 SPWEA440C | 2                  | 4.5                 |
| Aggregate Base, MnDOT 3138 (Class 5)    | 8                  | 8                   |
| Subgrade Preparation, MnDOT 2112        | Yes                | -                   |
| TOTAL                                   | -                  | 28.5                |

Concrete Trails

The trail section east of the parking lot along Howland Avenue West is planned to be a concrete design. The concrete section in Table 13 below is based on typical concrete, aggregate base, and select granular thicknesses we have seen for concrete trail pavement design.

**Table 13: Concrete Trail: Recommended Rigid Pavement Section**

| <b>Section</b>                       | <b>Thickness (inches)</b>        |
|--------------------------------------|----------------------------------|
| Concrete, MnDOT 2301                 | 4                                |
| Aggregate Base, MnDOT 3138 (Class 5) | 4                                |
| Subgrade Preparation, MnDOT 2112     | Subgrade Preparation, MnDOT 2112 |

#### General Pavement Discussion

Aggregate base placement for pavement support should meet the gradation and quality requirements for Class 5 per MnDOT specification 3138. Aggregate base material should be compacted to 100 percent of its standard Proctor maximum dry density.

Within several years after the initial paving, some thermal shrinkage cracks will develop. We recommend routine maintenance be performed to improve pavement performance and increase pavement life. Pavement should be sealed with a liquid bitumen sealer to retard water intrusion into the base course and subgrade. Localized failures may also develop where trucks or buses turn on the pavement. When these occur, they should be cut out and repaired with a full depth patch.

Drainage of the sand subbase is recommended. Drainage of the sand subbase may be accomplished by daylighting to adjacent ditches or the use of drain tile. Drain tile wrapped in a sock should be placed at the base of the sand subbase and tied into catch basins.

#### **4.7 Dewatering**

Based on the borings, encountering groundwater during planned excavations is considered unlikely. However, if groundwater is encountered it is likely dewatering can be accomplished with sumps and pumps placed at low points in excavations. If excavations extend greater than 2 feet into groundwater in granular soils, sand point wells may be required.

#### **4.8 Construction Considerations**

Good surface drainage should be maintained throughout the work so that the site is not vulnerable to ponding during or after a rainfall. If water enters the excavations, it should be promptly removed prior to further construction activities. Under no circumstances should fill or concrete be placed into standing water.

Soil corrections at this site for foundations and pavement subgrades may not be continuous. We recommend tapering the fills back to native soils at a ten to one (10:1) slope.

It is important to review the fill limits and total depth of fill when placing structures upon compacted materials and when filling the excavation. The location of the footings should allow for at least a one to one (1:1) slope from the bottom of the footing to the outside limits of the engineered fill.

It is important to check this at the time of construction that during filling, unsuitable soils do not encroach within the one to one (1:1) slope limits and extending downward and outward from future footings.

#### **4.9 Construction Safety**

All excavations should comply with the requirements of OSHA 29 CFR, Part 1926, Subpart P "Excavations and Trenches". This document states that excavation safety is the responsibility of the contractor. Reference to this OSHA requirement should be included in the job specifications.

The responsibility to provide safe working conditions on this site, for earthwork, building construction, or any associated operations is solely that of the contractor. This responsibility is not borne in any manner by WSB.

#### **4.10 Cold Weather Construction**

It is our understanding that construction is unlikely to occur during the winter months. However, if the construction does continue into the winter months we recommend the following guidelines.

Roadbeds should not be constructed during periods when the material freezes while being placed and compacted, nor should material be placed on soil that is frozen to a depth greater than 4 inches. When the soils are frozen to a depth exceeding 4 inches, at a time when weather conditions are such that construction could be continued without the material freezing as it is being placed and compacted, the contractor may be permitted to excavate the frozen soil and proceed with the construction for so long as the weather will permit. The frozen soils should be replaced with other suitable soils. Only unfrozen material should be used.

Placement of fill and/or foundation concrete should not be permitted on frozen soil, and the bearing soils under footings or under the floor slab should not be allowed to freeze after concrete is placed, because excessive post-construction settlement could occur as the frozen soils thaw.

#### **4.11 Field Observation and Testing**

The soil conditions illustrated on the Logs of Test Borings in **Appendix A** are indicative of the conditions only at the boring locations. For this reason, we recommend that excavations at this site be observed by a soil engineer or technician prior to backfilling, or placement of fill, or construction of foundation elements to determine if the soils are capable of supporting the backfilled material. These observations are recommended to judge if the unsuitable materials have been removed from within the planned construction area and an appropriate degree of lateral oversize has been provided.

WSB also recommends a representative number of field density tests be taken in engineered fill and backfill placed to aid in judging its suitability. Fill placement and compaction should be monitored and tested to determine that the resulting fill and backfill conforms to specified density, strength or compressibility requirements. Prior to use, proposed fill and backfill material should be submitted to the WSB laboratory for testing to verify compliance with recommendations and project specifications.

Dynamic Cone Penetrometer (DCP) tests can be completed in the aggregate base in lieu of density testing. We recommend following MnDOT Specification 2211.3.D.2.c.

WSB would be pleased to provide the advised field observation, monitoring and testing services during construction.

#### **4.12 Plan Review and Remarks**

The observations, recommendations and conclusions described in this report are based primarily on information provided to WSB, obtained from our subsurface exploration, our experience, several assumptions, and the scopes of service developed for this project and are for the sole use of our client. We recommend that WSB be retained to perform a review of final design drawing and specifications to evaluate that the geotechnical engineering report has not been misinterpreted. Should there be changes in the design or location of the structures related to this project or if there are uncertainties in the report we should be notified. We would be pleased to review project changes and modify the recommendations in this report or provide clarification in writing.

The entire report should be kept together; for example, boring logs should not be removed and placed in the specifications separately.

The boring logs and related information included in this report are indicators of the subsurface conditions only at the specific locations indicated on the Soil Boring Exhibit and times noted on the Logs of Test Boring sheets in **Appendix A**. The subsurface conditions, including groundwater levels, at other locations on the site may differ significantly from conditions that existed at the time of sampling and at the boring locations.

The test borings were completed by WSB solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.

WSB has not performed observations, investigations, explorations, studies or testing that are not specifically listed in the scope of service. WSB should not be liable for failing to discover any condition whose discovery required the performance of services not authorized by the Agreement.

## **5. STANDARD OF CARE**

The recommendations and opinions contained in this report are based on our professional judgment. The soil testing and geotechnical engineering services performed for this project have been performed with the level of skill and diligence ordinarily exercised by reputable members of the same profession under similar circumstances, at the same time and in the same or a similar locale. No warranty, either expressed or implied, is made.

## **APPENDIX A**

Soil Borings Exhibit  
Logs of Test Borings  
Symbols and Terminology on Test Boring Log  
Notice to Report Users Boring Log Information  
Unified Soil Classification Sheet (USCS)  
Concrete Core Pictures



### Figure 1 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



0 150  
Feet  
1 inch = 150 feet





### Figure 2 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



0 150  
Feet  
1 inch = 150 feet





### Figure 3 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



0 100  
Feet  
1 inch = 100 feet





### Figure 4 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



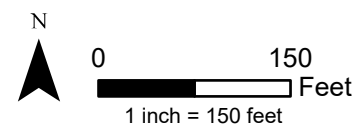
0 100  
Feet  
1 inch = 100 feet





### Figure 5 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN





### Figure 6 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



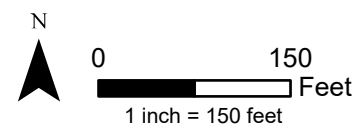
0 150  
Feet  
1 inch = 150 feet





### Figure 7 - Soil Boring Exhibit

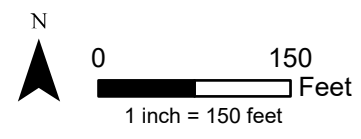
Lake Marion Greenway Trail  
Lakeville, MN





**Figure 8 - Soil Boring Exhibit**

Lake Marion Greenway Trail  
Lakeville, MN





### Figure 9 - Soil Boring Exhibit

Lake Marion Greenway Trail  
Lakeville, MN



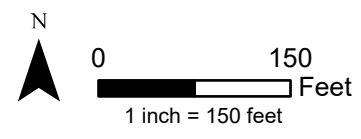
0 150  
Feet  
1 inch = 150 feet





**Figure 10 - Soil Boring Exhibit**

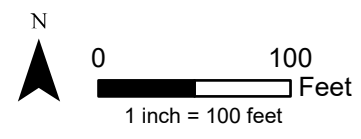
Lake Marion Greenway Trail  
Lakeville, MN





**Figure 11 - Soil Boring Exhibit**

Lake Marion Greenway Trail  
Lakeville, MN



# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
CLIENT/WSB #: 027938-000

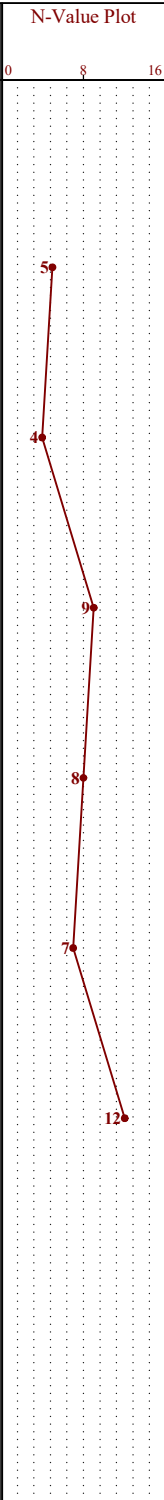
PROJECT LOCATION: Lakeville, MN  
SURFACE ELEVATION: 994 ft

**BORING NUMBER B-1**

PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N   | MC % | %Fines | N-Value Plot |   |    |  |
|------------|------------|---|------|-----------------|----|--------------------|--------|-----|-----|------|--------|--------------|---|----|--|
|            |            |   |      |                 |    |                    | TYPE   | No. |     |      |        | 0            | 8 | 16 |  |
| 1          | 993        | 12" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist                                   | OL   | Topsoil         |    |                    | AU     | 1   |     |      |        |              |   |    |  |
| 2          | 992        | LEAN CLAY WITH SAND, dark brown and brown, moist  | CL   | Glacial Till    |    |                    |        |     |     | 21   |        |              |   |    |  |
| 3          | 991        | SAND, fine to coarse grained, brown, moist, loose   | SP   | Glacial Outwash |    |                    | SB     | 2   | 5   |      |        |              |   |    |  |
| 4          | 990        |   |      |                 |    |                    |        | HSA |     |      |        |              |   |    |  |
| 5          | 989        | SAND WITH GRAVEL, fine to coarse grained, brown, moist, very loose                              | SP   |                 |    |                    | SB     | 3   | 4   |      |        |              |   |    |  |
| 6          | 988        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 7          | 987        | SAND WITH LITTLE GRAVEL, fine to coarse grained, brown, waterbearing, loose                     | SP   |                 |    |                    | HSA    |     |     |      |        |              |   |    |  |
| 8          | 986        |   |      |                 |    |                    | SB     | 4   | 9   |      |        |              |   |    |  |
| 9          | 985        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 10         | 984        |   |      |                 |    |                    | SB     | 5   | 8   |      |        |              |   |    |  |
| 11         | 983        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 12         | 982        | SAND WITH LITTLE GRAVEL, fine to coarse grained, gray, waterbearing, medium dense to very loose | SP   |                 |    |                    | HSA    |     |     |      |        |              |   |    |  |
| 13         | 981        |   |      |                 |    |                    | SB     | 6   | 7   |      |        |              |   |    |  |
| 14         | 980        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 15         | 979        |   |      |                 |    |                    | SB     | 7   | 12  |      |        |              |   |    |  |
| 16         | 978        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 17         | 977        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 18         | 976        |   |      |                 |    |                    | HSA    |     |     |      |        |              |   |    |  |
| 19         | 975        |   |      |                 |    |                    |        |     |     |      |        |              |   |    |  |
| 20         | 974        |   |      |                 |    |                    | SB     | 8   | WOH |      |        |              |   |    |  |
| 21         | 973        | End of Boring 21.0 ft.  |      |                 |    |                    |        |     |     |      |        |              |   |    |  |

▽



GEO-TECHNICAL-N-PLLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

**WATER LEVEL MEASUREMENTS**

START: 6/18/2025

END: 6/18/2025

| DATE      | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD               | Crew Chief: | Logged By: |
|-----------|---------|---------------|--------------|---------------|-------------|-----------------|----------------------|-------------|------------|
| 6/18/2025 | 9:15 am | 21            | 19.5         | 10            | 7.0         | 987             | 3.25" HSA 0' - 19.5' | J. Alme     | A. Haag    |
|           |         |               |              |               |             |                 |                      | Notes:      |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 990 ft

BORING NUMBER B-2  
 PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |
|------------|------------|---|------|-----------------|----|--------------------|--------|-----|---|------|--------|--------------|
|            |            |   |      |                 |    |                    | TYPE   | No. |   |      |        |              |
|            |            | 12" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist             | OL   | Topsoil         |    |                    |        |     |   |      |        | 0 3,5 7      |
| 1          | 989        | CLAYEY SAND, fine to medium grained, dark brown, moist, very loose        | SC   | Glacial Till    |    |                    | AU     | 1   |   |      |        |              |
| 2          | 988        |   |      |                 |    |                    |        |     |   |      |        |              |
| 3          | 987        | LEAN CLAY WITH SAND, brown, moist, very soft                              | CL   |                 |    |                    | SB     | 2   | 3 |      |        | 30           |
| 4          | 986        |   |      |                 |    |                    | HSA    |     |   | 25   |        |              |
| 5          | 985        |   |      |                 | ▽  |                    |        |     |   |      |        | 20           |
| 6          | 984        | SAND WITH GRAVEL, fine to coarse grained, brown, waterbearing, very loose | SP   | Glacial Outwash |    |                    | SB     | 3   | 2 |      |        | 10           |

End of Boring 6.0 ft.

WATER LEVEL MEASUREMENTS

START: 6/18/2025

END: 6/18/2025

| DATE      | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief: | Logged By: |
|-----------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|-------------|------------|
|           |          |               |              |               |             |                 |                     | J. Alme     | A. Haag    |
| 6/18/2025 | 11:15 am | 6             | 4.5          | 5             | 5.0         | 985             | 3.25" HSA 0' - 4.5' | Notes:      |            |
|           |          |               |              |               |             |                 |                     |             |            |

GEO-TECHNICAL-N-PILOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1013.5 ft

BORING NUMBER B-3  
 PAGE 1 OF 1

| DEPTH (ft)            | ELEV. (ft) | DESCRIPTION OF MATERIAL   | USCS  | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |    |    |  |
|-----------------------|------------|---|-------|------------------|----|--------------------|--------|-----|----|------|--------|--------------|----|----|--|
|                       |            |   |       |                  |    |                    | TYPE   | No. |    |      |        | 0            | 11 | 22 |  |
|                       |            | 8" AGG: Sand with Gravel, brown, moist                                      | Fill  | Pavement Section |    |                    |        |     |    |      |        |              |    |    |  |
| 1                     | 1013       | SAND WITH GRAVEL, brown, moist  | Fill  | Fill             |    |                    | AU     | 1   |    |      |        |              |    |    |  |
| 2                     | 1012       | CLAYEY SAND, fine to coarse grained, brown, moist, medium dense             | SC    | Glacial Till     |    |                    |        |     |    | 8    | 31     |              |    |    |  |
| 3                     | 1011       | SAND, fine to coarse grained, light brown, moist, medium dense              | SP    |                  |    |                    | SB     | 2   | 18 |      |        |              |    |    |  |
| 4                     | 1010       | SAND WITH CLAY, fine to coarse grained, brown, moist, loose                 | SP-SC |                  |    |                    | HSA    |     |    |      |        |              |    |    |  |
| 5                     | 1009       | CLAYEY SAND WITH LITTLE GRAVEL, fine to coarse grained, brown, moist, loose | SC    |                  |    |                    |        |     |    |      |        |              |    |    |  |
| 6                     | 1008       | SAND WITH LITTLE GRAVEL, fine to coarse grained, brown, moist, loose        | SP    |                  |    |                    | SB     | 3   | 7  |      |        |              |    |    |  |
| End of Boring 6.0 ft. |            |   |       |                  |    |                    |        |     |    |      |        |              |    |    |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEOLAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/18/2025    | END: 6/18/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/18/2025                | 11:45 am | 6             | 4.5          | 3             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1004.5 ft

BORING NUMBER B-6

PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |   |    |  |  |
|------------|------------|---|------|-----------------|----|--------------------|--------|-----|---|------|--------|--------------|---|----|--|--|
|            |            |   |      |                 |    |                    | TYPE   | No. |   |      |        | 0            | 5 | 10 |  |  |
|            |            | 7" TOPSOIL: Lean Clay with Sand, slightly organic, brown with dark brown, wet | OL   | Topsoil         |    |                    |        |     |   |      |        |              |   |    |  |  |
| 1          | 1004       | LEAN CLAY WITH SAND, brown, wet   | Fill | Fill            |    |                    | AU     | 1   |   |      |        |              |   |    |  |  |
| 3          | 1002       | CLAYEY SAND, brown with dark brown, moist                                     | Fill |                 |    |                    | SB     | 2   | 3 | 18   | 26     |              |   |    |  |  |
| 4          | 1001       | CLAYEY SAND WITH LITTLE GRAVEL, brown, moist                                  | Fill |                 |    |                    | HSA    |     |   |      |        |              |   |    |  |  |
| 5          | 1000       |   |      |                 |    |                    | SB     | 3   | 6 |      |        |              |   |    |  |  |
| 6          | 999        | End of Boring 6.0 ft.   |      |                 |    |                    |        |     |   |      |        |              |   |    |  |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/18/2025    | END: 6/18/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/18/2025                | 12:50 pm | 6             | 4.5          | 5             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1010 ft

**BORING NUMBER B-7**  
 PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |    |    |  |  |
|---------------|---------------|--|------|------------------|----|--------------------|--------|-----|----|------|--------|--------------|----|----|--|--|
|               |               |  |      |                  |    |                    | TYPE   | No. |    |      |        | 0            | 15 | 30 |  |  |
|               |               | 12" CRUSHED LIMESTONE  | Fill | Pavement Section |    |                    |        |     |    |      |        |              |    |    |  |  |
| 1             | 1009          | SAND WITH GRAVEL, fine to coarse grained, light brown, moist, medium dense | SP   | Glacial Outwash  |    |                    | AU     | 1   |    |      |        |              |    |    |  |  |
| 2             | 1008          |  |      |                  |    |                    |        |     |    |      |        |              |    |    |  |  |
| 3             | 1007          | SAND WITH GRAVEL, fine to coarse grained, brown, moist, medium dense       | SP   |                  |    |                    | SB     | 2   | 26 |      |        |              |    |    |  |  |
| 4             | 1006          |  |      |                  |    |                    |        |     |    |      |        |              |    |    |  |  |
| 5             | 1005          |  |      |                  |    |                    |        |     |    |      |        |              |    | 10 |  |  |
| 6             | 1004          |  |      |                  |    |                    | SB     | 3   | 19 |      |        |              |    |    |  |  |

End of Boring 6.0 ft.

**WATER LEVEL MEASUREMENTS**

START: 6/20/2025

END: 6/20/2025

| DATE      | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief: | Logged By: |
|-----------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|-------------|------------|
|           |          |               |              |               |             |                 |                     | J. Alme     | A. Haag    |
| 6/20/2025 | 11:10 am | 6             | 4.5          | 3             | None        |                 | 3.25" HSA 0' - 4.5' | Notes:      |            |
|           |          |               |              |               |             |                 |                     |             |            |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:15 - M:\027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1017 ft

BORING NUMBER B-8  
 PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |    |    |  |
|------------|------------|--|------|------------------|----|--------------------|--------|-----|----|------|--------|--------------|----|----|--|
|            |            |  |      |                  |    |                    | TYPE   | No. |    |      |        | 0            | 21 | 42 |  |
| 1          | 1016       | 5" BITUMINOUS<br>12" AGG: Sand with Gravel, brown, moist                             |      | Pavement Section |    |                    | AU     | 1   |    |      |        |              |    |    |  |
| 2          | 1015       | SAND WITH GRAVEL, brown, moist   | Fill | Fill             |    |                    |        |     |    |      |        |              |    |    |  |
|            |            | CLAYEY SAND WITH GRAVEL, brown, wet  | Fill |                  |    |                    | SB     | 2   | 19 | 10   |        |              |    |    |  |
| 3          | 1014       | SAND WITH GRAVEL, brown, moist   | Fill |                  |    |                    |        |     |    |      |        |              |    |    |  |
| 4          | 1013       | CLAYEY SAND WITH LITTLE GRAVEL,<br>brown with dark brown and reddish brown,<br>moist | Fill |                  |    |                    | HSA    |     |    |      |        |              |    |    |  |
| 5          | 1012       |  |      |                  |    |                    | SB     | 3   | 38 |      |        |              |    |    |  |
| 6          | 1011       | End of Boring 6.0 ft.  |      |                  |    |                    |        |     |    |      |        |              |    |    |  |

GEO-TECHNICAL-N-PL0T - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/20/2025    | END: 6/20/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/20/2025                | 11:30 am | 6             | 4.5          | 3.5           | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1017 ft

**BORING NUMBER B-9**  
 PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |    |    |    |
|------------|------------|--|------|-----------------|----|--------------------|--------|-----|----|------|--------|--------------|----|----|----|
|            |            |  |      |                 |    |                    | TYPE   | No. |    |      |        | 0            | 12 | 24 |    |
|            |            | 10" TOPSOIL: Clayey Sand with Gravel, slightly organic, brown, moist | OL   | Topsoil         |    |                    |        |     |    |      |        |              |    |    |    |
| 1          | 1016       | CLAYEY SAND WITH GRAVEL, brown, moist                                | Fill | Fill            |    |                    | AU     | 1   |    | 17   |        |              |    |    |    |
| 2          | 1015       |  |      |                 |    |                    |        |     |    |      |        |              |    |    |    |
| 3          | 1014       | SAND WITH GRAVEL, fine to coarse grained, brown, moist, medium dense | SP   | Glacial Outwash |    |                    | SB     | 2   | 20 |      |        |              |    |    | 20 |
| 4          | 1013       |  |      |                 |    |                    | HSA    |     |    |      |        |              |    |    |    |
| 5          | 1012       |  |      |                 |    |                    |        |     |    |      |        |              |    |    |    |
| 6          | 1011       |  |      |                 |    |                    | SB     | 3   | 18 |      |        |              |    |    | 18 |

End of Boring 6.0 ft.

**WATER LEVEL MEASUREMENTS**

START: 6/20/2025

END: 6/20/2025

| DATE      | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief: | Logged By: |
|-----------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|-------------|------------|
| 6/20/2025 | 1:00 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme     | A. Haag    |
|           |         |               |              |               |             |                 |                     | Notes:      |            |

GEO-TECHNICAL-N-PL0T - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 995.5 ft

BORING NUMBER B-15  
 PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL                                  | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |     |    |  |  |
|---------------|---------------|--|------|------------------|----|--------------------|--------|-----|----|------|--------|--------------|-----|----|--|--|
|               |               |  |      |                  |    |                    | TYPE   | No. |    |      |        | 0            | 7.5 | 15 |  |  |
|               |               | 4" BITUMINOUS<br>10" AGG: Sand with Gravel, brown, moist |      | Pavement Section |    |                    |        |     |    |      |        |              |     |    |  |  |
| 1             | 995           | CLAYEY SAND, dark brown, moist                           | Fill | Fill             |    |                    | AU     | 1   |    |      |        |              |     |    |  |  |
| 2             | 994           |  |      |                  |    |                    |        |     |    | 9    |        |              |     |    |  |  |
| 3             | 993           | SAND WITH GRAVEL, brown, moist                           | Fill |                  |    |                    | SB     | 2   | 11 |      |        |              |     |    |  |  |
| 4             | 992           | CLAYEY SAND, brown with dark brown, wet                  | Fill |                  |    |                    | HSA    |     |    |      |        |              |     |    |  |  |
| 5             | 991           |  |      |                  |    |                    |        |     |    |      |        |              |     |    |  |  |
| 6             | 990           | End of Boring 6.0 ft.                                    |      |                  |    |                    |        |     |    |      |        |              |     |    |  |  |

GEO-TECHNICAL-N-PLLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 6/18/2025    | END: 6/18/2025 |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/18/2025                | 1:30 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |         |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1001 ft

BORING NUMBER B-16  
 PAGE 1 OF 1

| DEPTH (ft)            | ELEV. (ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |   |    |  |  |
|-----------------------|------------|---|------|------------------|----|--------------------|--------|-----|---|------|--------|--------------|---|----|--|--|
|                       |            |   |      |                  |    |                    | TYPE   | No. |   |      |        | 0            | 5 | 10 |  |  |
| 1                     | 1000       | 5" BITUMINOUS<br>8" AGG: Sand with Gravel, brown and dark brown, moist  |      | Pavement Section |    |                    | AU     | 1   |   |      |        |              |   |    |  |  |
| 2                     | 999        | SAND WITH GRAVEL, brown with dark brown, moist                          | Fill | Fill             |    |                    |        |     |   |      |        |              |   |    |  |  |
| 3                     | 998        | SANDY LEAN CLAY, brown with dark brown, moist                           | Fill |                  |    |                    | SB     | 2   | 6 | 20   |        |              |   |    |  |  |
| 4                     | 997        | CLAYEY SAND WITH GRAVEL, fine to coarse grained, brown, wet, loose      | SC   | Glacial Till     |    |                    | HSA    |     |   |      | 17     |              |   |    |  |  |
| 5                     | 996        | CLAYEY SAND WITH GRAVEL, fine to coarse grained, brown, wet, very loose | SC   |                  |    |                    |        |     |   |      |        |              |   |    |  |  |
| 6                     | 995        | SAND WITH GRAVEL, fine to coarse grained, light brown, moist, loose     | SP   | Glacial Outwash  |    |                    | SB     | 3   | 4 |      |        |              |   |    |  |  |
| End of Boring 6.0 ft. |            |   |      |                  |    |                    |        |     |   |      |        |              |   |    |  |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 6/18/2025    | END: 6/18/2025 |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/18/2025                | 2:15 pm | 6             | 4.5          | 4.5           | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |         |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 985 ft

BORING NUMBER B-17  
 PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |     |    |  |  |  |
|------------|------------|--|------|------------------|----|--------------------|--------|-----|----|------|--------|--------------|-----|----|--|--|--|
|            |            |  |      |                  |    |                    | TYPE   | No. |    |      |        | 0            | 8.5 | 17 |  |  |  |
|            |            | 4" BITUMINOUS<br>8" AGG: Crushed Limestone                       |      | Pavement Section |    |                    |        |     |    |      |        |              |     |    |  |  |  |
| 1          | 984        | CLAYEY SAND WITH LITTLE GRAVEL,<br>brown, wet                    | Fill | Fill             |    |                    | AU     | 1   |    |      |        |              |     |    |  |  |  |
| 2          | 983        |  |      |                  |    |                    |        |     |    |      |        |              |     |    |  |  |  |
| 3          | 982        |  |      |                  |    |                    | SB     | 2   | 13 |      |        |              |     |    |  |  |  |
| 4          | 981        |  |      |                  |    |                    | HSA    |     |    |      |        |              |     |    |  |  |  |
| 5          | 980        | CLAYEY SAND, fine to medium grained, dark<br>brown, moist, loose | SC   | Glacial Till     |    |                    | SB     | 3   | 7  | 11   |        |              |     |    |  |  |  |
| 6          | 979        | End of Boring 6.0 ft.  |      |                  |    |                    |        |     |    |      |        |              |     |    |  |  |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/20/2025    | END: 6/20/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/20/2025                | 10:20 am | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |



# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 982.5 ft

BORING NUMBER B-19

PAGE 1 OF 1

| DEPTH<br>(ft)         | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |     |    |  |
|-----------------------|---------------|--|------|------------------|----|--------------------|--------|-----|---|------|--------|--------------|-----|----|--|
|                       |               |  |      |                  |    |                    | TYPE   | No. |   |      |        | 0            | 5.5 | 11 |  |
|                       |               | 2" BITUMINOUS<br>4" AGG: Sand with Gravel, brown, moist                          |      | Pavement Section |    |                    |        |     |   |      |        |              |     |    |  |
| 1                     | 982           | SAND WITH GRAVEL, brown, moist   | Fill | Fill             |    |                    | AU     | 1   |   |      |        |              |     |    |  |
| 2                     | 981           | CLAYEY SAND, brown, moist  | Fill |                  |    |                    |        |     |   |      |        |              |     |    |  |
| 3                     | 980           | ORGANIC LEAN CLAY WITH SAND, dark brown, moist, soft<br>[Organic Content = 5.8%] | OL   | Glacial Till     |    |                    | SB     | 2   | 6 | 24   |        |              |     | 6  |  |
| 4                     | 979           | CLAYEY SAND, fine to medium grained, dark brown, moist, loose                    | SC   |                  |    |                    | HSA    |     |   |      |        |              |     |    |  |
| 5                     | 978           |  |      |                  |    |                    |        |     |   | 11   |        |              |     |    |  |
| 6                     | 977           | CLAYEY SAND WITH GRAVEL, fine to coarse grained, brown, moist, loose             | SC   | Glacial Outwash  |    |                    | SB     | 3   | 7 |      |        |              |     | 7  |  |
| End of Boring 6.0 ft. |               |  |      |                  |    |                    |        |     |   |      |        |              |     |    |  |

GEO-TECHNICAL-N-PLOT - WSB.GDT - 7/16/25 11:15 - M:027938-000\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/19/2025    | END: 6/19/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/19/2025                | 11:00 am | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 979 ft

BORING NUMBER B-20

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC<br>ORIGIN | WL | Drilling<br>Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |     |    |  |
|---------------|---------------|--|------|--------------------|----|-----------------------|--------|-----|---|------|--------|--------------|-----|----|--|
|               |               |  |      |                    |    |                       | TYPE   | No. |   |      |        | 0            | 5.5 | 11 |  |
|               |               | 6" BITUMINOUS<br>2" AGG: Sand with Gravel, brown, moist          |      | Pavement Section   |    |                       |        |     |   |      |        |              |     |    |  |
| 1             | 978           | SAND WITH GRAVEL, fine to coarse grained,<br>brown, moist, loose | SP   | Glacial Outwash    |    |                       | AU     | 1   |   |      |        |              |     |    |  |
| 2             | 977           |  |      |                    |    |                       |        |     |   |      |        |              |     |    |  |
| 3             | 976           |  |      |                    |    |                       | SB     | 2   | 7 |      |        |              |     |    |  |
| 4             | 975           |  |      |                    |    |                       | HSA    |     |   |      |        |              |     |    |  |
| 5             | 974           |  |      |                    |    |                       | SB     | 3   | 5 |      |        |              |     |    |  |
| 6             | 973           | - [Lens of Clay between 5 and 6 feet]                            |      |                    |    |                       |        |     |   |      |        |              |     |    |  |

End of Boring 6.0 ft.

WATER LEVEL MEASUREMENTS

START: 6/19/2025

END: 6/19/2025

| DATE      | TIME     | SAMPLED<br>DEPTH | CASING<br>DEPTH | CAVE-IN<br>DEPTH | WATER<br>DEPTH | WATER<br>ELEVATION | METHOD              | Crew Chief: |  | Logged By: |  |
|-----------|----------|------------------|-----------------|------------------|----------------|--------------------|---------------------|-------------|--|------------|--|
|           |          |                  |                 |                  |                |                    |                     | J. Alme     |  | A. Haag    |  |
| 6/19/2025 | 11:30 am | 6                | 4.5             | 4                | None           |                    | 3.25" HSA 0' - 4.5' | Notes:      |  |            |  |
|           |          |                  |                 |                  |                |                    |                     |             |  |            |  |

GEO-TECHNICAL-N-PL0T - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 982 ft

BORING NUMBER B-21

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC<br>ORIGIN | WL | Drilling<br>Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |      |    |  |
|---------------|---------------|---|------|--------------------|----|-----------------------|--------|-----|----|------|--------|--------------|------|----|--|
|               |               |   |      |                    |    |                       | TYPE   | No. |    |      |        | 0            | 10.5 | 21 |  |
|               |               | 6" BITUMINOUS<br>2" AGG: Sand with Gravel, brown, moist                 |      | Pavement Section   |    |                       |        |     |    |      |        |              |      |    |  |
| 1             | 981           | SAND WITH GRAVEL, fine to coarse grained,<br>brown, moist, loose        | SP   | Glacial Outwash    |    |                       | AU     | 1   |    |      |        |              |      |    |  |
| 2             | 980           |   |      |                    |    |                       |        |     |    |      |        |              |      |    |  |
| 3             | 979           |   |      |                    |    |                       | SB     | 2   | 10 | 11   |        |              |      |    |  |
| 4             | 978           | SAND WITH GRAVEL, fine to coarse grained,<br>brown, moist, medium dense | SP   |                    |    |                       | HSA    |     |    |      |        |              |      |    |  |
| 5             | 977           |   |      |                    |    |                       |        |     |    |      |        |              |      |    |  |
| 6             | 976           |   |      |                    |    |                       | SB     | 3   | 17 |      |        |              |      |    |  |

End of Boring 6.0 ft.

WATER LEVEL MEASUREMENTS

START: 6/19/2025

END: 6/19/2025

| DATE      | TIME     | SAMPLED<br>DEPTH | CASING<br>DEPTH | CAVE-IN<br>DEPTH | WATER<br>DEPTH | WATER<br>ELEVATION | METHOD              | Crew Chief: | Logged By: |
|-----------|----------|------------------|-----------------|------------------|----------------|--------------------|---------------------|-------------|------------|
| 6/19/2025 | 11:50 am | 6                | 4.5             | 3                | None           |                    | 3.25" HSA 0' - 4.5' | J. Alme     | A. Haag    |
|           |          |                  |                 |                  |                |                    |                     | Notes:      |            |

GEO-TECHNICAL-N-PL0T - WSB.GDT - 7/16/25 11:15 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 976 ft

BORING NUMBER B-22

PAGE 1 OF 1

| DEPTH (ft) | ELEV. (ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |   |    |  |  |
|------------|------------|--|------|-----------------|----|--------------------|--------|-----|----|------|--------|--------------|---|----|--|--|
|            |            |  |      |                 |    |                    | TYPE   | No. |    |      |        | 0            | 8 | 16 |  |  |
|            |            | 6" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist             | OL   | Topsoil         |    |                    |        |     |    |      |        |              |   |    |  |  |
| 1          | 975        | SLIGHTLY ORGANIC CLAYEY SAND, dark brown, moist [Organic Content = 5.0%] | Fill | Fill            |    |                    | AU     | 1   |    | 14   |        |              |   |    |  |  |
| 2          | 974        |  |      |                 |    |                    |        |     |    |      |        |              |   |    |  |  |
| 3          | 973        | SAND WITH GRAVEL, fine to coarse grained, brown, moist, medium dense     | SP   | Glacial Outwash |    |                    | SB     | 2   | 12 |      |        |              |   |    |  |  |
| 4          | 972        |  |      |                 |    |                    | HSA    |     |    |      |        |              |   |    |  |  |
| 5          | 971        |  |      |                 |    |                    | SB     | 3   | 11 |      |        |              |   |    |  |  |
| 6          | 970        | End of Boring 6.0 ft.  |      |                 |    |                    |        |     |    |      |        |              |   |    |  |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/19/2025    | END: 6/19/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/19/2025                | 12:35 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 974.5 ft

BORING NUMBER B-23

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |    |    |  |    |    |
|---------------|---------------|--|------|-----------------|----|--------------------|--------|-----|----|------|--------|--------------|----|----|--|----|----|
|               |               |  |      |                 |    |                    | TYPE   | No. |    |      |        | 0            | 10 | 20 |  |    |    |
|               |               | 4" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist         | OL   | Topsoil         |    |                    |        |     |    |      |        |              |    |    |  |    |    |
|               |               | SAND WITH GRAVEL, fine to coarse grained, brown, moist, medium dense | SP   | Glacial Outwash |    |                    |        |     |    |      |        |              |    |    |  |    |    |
| 1             | 974           |  |      |                 |    |                    | AU     | 1   |    | 9    |        |              |    |    |  |    |    |
| 2             | 973           |  |      |                 |    |                    |        |     |    |      |        |              |    |    |  |    |    |
| 3             | 972           |  |      |                 |    |                    | SB     | 2   | 16 |      |        |              |    |    |  |    | 16 |
| 4             | 971           |  |      |                 |    |                    | HSA    |     |    |      |        |              |    |    |  |    |    |
| 5             | 970           |  |      |                 |    |                    |        |     |    |      |        |              |    |    |  |    |    |
| 6             | 969           | End of Boring 6.0 ft.  |      |                 |    |                    |        |     |    |      |        |              |    |    |  | 15 |    |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |          |               |              |               |             |                 | START: 6/19/2025    | END: 6/19/2025 |            |
|--------------------------|----------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME     | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/19/2025                | 12:15 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |          |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 975 ft

**BORING NUMBER B-24**

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS  | GEOLOGIC ORIGIN  | WL | Drilling Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |   |    |  |
|---------------|---------------|--|-------|------------------|----|--------------------|--------|-----|---|------|--------|--------------|---|----|--|
|               |               |  |       |                  |    |                    | TYPE   | No. |   |      |        | 0            | 6 | 12 |  |
|               |               | 5" BITUMINOUS<br>7" AGG: Crushed Limestone   |       | Pavement Section |    |                    |        |     |   |      |        |              |   |    |  |
| 1             | 974           | SAND WITH CLAY AND GRAVEL, fine to coarse grained, brown with dark brown, moist, loose | SP-SC | Glacial Outwash  |    |                    | AU     | 1   |   |      |        |              |   |    |  |
| 2             | 973           |  |       |                  |    |                    |        |     |   |      |        |              |   |    |  |
| 3             | 972           |  |       |                  |    |                    | SB     | 2   | 8 | 8    |        |              |   |    |  |
| 4             | 971           | CLAYEY SAND, fine to medium grained, dark brown, wet, loose                            | SC    |                  |    |                    | HSA    |     |   |      |        |              |   |    |  |
| 5             | 970           | SAND WITH LITTLE GRAVEL, fine to coarse grained, brown, moist, loose                   | SP    |                  |    |                    | SB     | 3   | 7 |      |        |              |   |    |  |
| 6             | 969           | End of Boring 6.0 ft.  |       |                  |    |                    |        |     |   |      |        |              |   |    |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 6/19/2025    | END: 6/19/2025 |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/19/2025                | 1:15 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |         |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
SURFACE ELEVATION: 971.5 ft

BORING NUMBER B-25  
PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL   | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | N  | MC % | %Fines | N-Value Plot |     |    |  |
|---------------|---------------|---|------|-----------------|----|--------------------|--------|-----|----|------|--------|--------------|-----|----|--|
|               |               |   |      |                 |    |                    | TYPE   | No. |    |      |        | 0            | 8.5 | 17 |  |
|               |               | 6" TOPSOIL: Silt, slightly organic, brown, moist                              | OL   | Topsoil         |    |                    |        |     |    |      |        |              |     |    |  |
| 1             | 971           | CLAYEY SAND WITH GRAVEL, fine to coarse grained, brown with dark brown, moist | SC   | Glacial Till    |    |                    | AU     | 1   | 18 |      |        |              |     |    |  |
| 2             | 970           | SAND WITH GRAVEL, fine to coarse grained, brown, moist, loose                 | SP   | Glacial Outwash |    |                    |        |     |    |      |        |              |     |    |  |
| 3             | 969           |   |      |                 |    |                    | SB     | 2   | 9  |      |        |              |     |    |  |
| 4             | 968           | SAND WITH LITTLE GRAVEL, fine to coarse grained, brown, moist, medium dense   | SP   |                 |    |                    | HSA    |     |    |      |        |              |     |    |  |
| 5             | 967           |   |      |                 |    |                    |        |     |    |      |        |              |     |    |  |
| 6             | 966           | End of Boring 6.0 ft.   |      |                 |    |                    |        |     |    |      |        |              |     |    |  |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 6/19/2025    | END: 6/19/2025 |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|----------------|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief:    | Logged By: |
| 6/19/2025                | 2:00 pm | 6             | 4.5          | 3.5           | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme        | A. Haag    |
|                          |         |               |              |               |             |                 |                     | Notes:         |            |

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 966 ft

**BORING NUMBER B-27**

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL  | USCS | GEOLOGIC<br>ORIGIN | WL | Drilling<br>Operation | SAMPLE |     | N | MC % | %Fines | N-Value Plot |     |   |  |
|---------------|---------------|--|------|--------------------|----|-----------------------|--------|-----|---|------|--------|--------------|-----|---|--|
|               |               |  |      |                    |    |                       | TYPE   | No. |   |      |        | 0            | 3,5 | 7 |  |
|               |               | 12" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist      | OL   | Topsoil            |    |                       |        |     |   |      |        |              |     |   |  |
| 1             | 965           | CLAYEY SAND, pieces of limestone and masonry debris, dark brown    | Fill | Fill               |    |                       | AU     | 1   |   |      |        |              |     |   |  |
| 2             | 964           |  |      |                    |    |                       |        |     |   |      |        |              |     |   |  |
| 3             | 963           |  |      |                    |    |                       | SB     | 2   | 3 |      |        |              |     |   |  |
| 4             | 962           | CLAYEY SAND, fine to coarse grained, dark brown, moist, very loose | SC   | Glacial Till       |    |                       | HSA    |     |   |      |        |              |     |   |  |
| 5             | 961           |  |      |                    |    |                       |        |     |   | 16   |        |              |     |   |  |
| 6             | 960           |  |      |                    |    |                       | SB     | 3   | 3 |      |        |              |     |   |  |

End of Boring 6.0 ft.

**WATER LEVEL MEASUREMENTS**

START: 6/19/2025

END: 6/19/2025

| DATE      | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD              | Crew Chief: | Logged By: |
|-----------|---------|---------------|--------------|---------------|-------------|-----------------|---------------------|-------------|------------|
| 6/19/2025 | 2:40 pm | 6             | 4.5          | 4             | None        |                 | 3.25" HSA 0' - 4.5' | J. Alme     | A. Haag    |
|           |         |               |              |               |             |                 |                     | Notes:      |            |

GEO-TECHNICAL-N-PL0T - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 1010.5 ft

**BORING NUMBER HA-4**

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL                                      | USCS | GEOLOGIC ORIGIN | WL | Drilling Operation | SAMPLE |     | MC % | %Fines | N-Value Plot |
|---------------|---------------|--|------|-----------------|----|--------------------|--------|-----|------|--------|--------------|
|               |               |  |      |                 |    |                    | TYPE   | No. |      |        |              |
|               |               | 4" TOPSOIL: Clayey Sand, slightly organic, dark brown, moist | OL   | Topsoil         |    |                    | HA     | 1   |      |        | 0            |
|               |               | CLAYEY SAND, fine to medium grained, dark brown, moist       | SC   | Glacial Till    |    |                    | HA     | 2   |      | 13     |              |
|               |               | - [Obstruction hit at 1 foot]                                |      |                 |    |                    |        |     |      |        |              |
| 1             | 1010          | End of Boring 1.0 ft.  |      |                 |    |                    |        |     |      |        |              |

GEO-TECHNICAL-N-PILOT - WSB.GDT - 7/16/25 11:16 - M:027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 6/20/2025   | END: 6/20/2025  |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|--------------------|---|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD             | Crew Chief:   | Logged By: |
| 6/20/2025                | 2:15 pm | 1             |              | 1             | None        |                 | Hand Auger 0' - 1' | N. Thao   | A. Haag    |
|                          |         |               |              |               |             |                 |                    | Notes: 3 Separate holes were augered. Cobbles encountered each time |            |









# LOG OF TEST BORING



PROJECT NAME: Lake Marion Greenway Phase I  
 CLIENT/WSB #: 027938-000

PROJECT LOCATION: Lakeville, MN  
 SURFACE ELEVATION: 984 ft

**BORING NUMBER HA-30**

PAGE 1 OF 1

| DEPTH<br>(ft) | ELEV.<br>(ft) | DESCRIPTION OF MATERIAL                       | USCS | GEOLOGIC<br>ORIGIN | WL | Drilling<br>Operation | SAMPLE |     | MC % | %Fines | N-Value Plot |
|---------------|---------------|---|------|--------------------|----|-----------------------|--------|-----|------|--------|--------------|
|               |               |   |      |                    |    |                       | TYPE   | No. |      |        |              |
|               |               | 6" TOPSOIL                                    | OL   | Topsoil            |    |                       | HA     | 1   |      |        | 0            |
| 1             | 983           | SANDY LEAN CLAY, dark brown with brown, moist | CL   | Glacial Till       |    |                       | HA     | 2   | 14   | 51     |              |
| 2             | 982           |   |      |                    |    |                       |        |     |      |        |              |
| 3             | 981           | End of Boring 3.0 ft.                         |      |                    |    |                       |        |     |      |        |              |

GEO TECHNICAL N- PLOT - WSB.GDT - 7/16/25 11:16 - M:\027938-000\GEO\LAKE MARION GREENWAY PHASE I - BORING LOG.GPJ

| WATER LEVEL MEASUREMENTS |         |               |              |               |             |                 | START: 7/11/2025   | END: 7/11/2025 |            |
|--------------------------|---------|---------------|--------------|---------------|-------------|-----------------|--------------------|----------------|------------|
| DATE                     | TIME    | SAMPLED DEPTH | CASING DEPTH | CAVE-IN DEPTH | WATER DEPTH | WATER ELEVATION | METHOD             | Crew Chief:    | Logged By: |
| 7/10/2025                | 1:00 pm | 3             |              | 3             | None        |                 | Hand Auger 0' - 3' | N. Horstman    | A. Wacek   |
|                          |         |               |              |               |             |                 |                    | Notes:         |            |

## SYMBOLS AND TERMINOLOGY ON TEST BORING LOG

| SYMBOLS               |  |                    |  |
|-----------------------|--|--------------------|--|
| Drilling and Sampling |  | Laboratory Testing |  |
| <u>Symbol</u>         | <u>Description</u>                             | <u>Symbol</u>      | <u>Description</u>                                   |
| HSA                   | 3 1/4" LD. Hollow Stem Auger                   | MC                 | Moisture content, % (ASTM D2216)                     |
| FA                    | Flight Auger                                   | DD                 | Dry Density, pcf                                     |
| HA                    | Hand Auger                                     | LL                 | Liquid Limit (ASTM D4318)                            |
| RC                    | Size A, B, or N rotary casing                  | PL                 | Plastic Limit (ASTM D4318)                           |
| CS                    | Continuous split barrel sampling               |                    |  |
| DM                    | Drilling Mud                                   |                    | - Inserts in last column                             |
| JW                    | Jetting Water                                  |                    |  |
| SB                    | 2" O.D. split barrel sampling                  | Qu                 | Unconfined compressive strength, psf (ASTM D2166)    |
| _L                    | 2 1/2" or 3 1/2" OD split barrel liner sampler | Pq                 | Penetrometer Reading, tsf (ASTM D1558)               |
| _T                    | 2" or 3" thin walled tube sample               | Ts                 | Torvane Reading, ts                                  |
| W                     | Wash sample                                    | G                  | Specific Gravity (ASTM D854)                         |
| B                     | Bag sample                                     | SL                 | Shrinkage limits (ASTM D427)                         |
| P                     | Test Pit sample                                | OC                 | Organic Content (ASTM D2974)                         |
| _Q                    | BQ, NQ, or PQ wire line system                 | SP                 | Swell Pressure, tsf (ASTM D4546)                     |
| _X                    | AX, BX, or NX double tube barrel               | PS                 | Percent swell under pressure (ASTM D4546)            |
| N                     | Standard penetration test, blow per foot       | FS                 | Free swell, % (ASTM D4546)                           |
| CR                    | Core recovery, percent                         | SS                 | Shrink swell, % (ASTM D4546)                         |
| WL                    | Water level                                    | pH                 |  |
| n/a                   | no measurement recorded                        | SC                 | Sulfate content, parts/million or mg/l               |
|                       |  | CC                 | Chloride content, parts/million or mg/l              |
|                       |  | C                  | One dimensional consolidation (ASTM D2435)           |
|                       |  | Qc                 | Triaxial compression (ASTM D2850 and D4767)          |
|                       |  | DS                 | Direct Shear (ASTM D3080)                            |
|                       |  | K                  | Coefficient of permeability, cm/sec (ASTM D2434)     |
|                       |  | P                  | Pinhole Test (ASTM D4647)                            |
|                       |  | DH                 | Double hydrometer (ASTM D4221)                       |
|                       |  | MA                 | Particle size analysis (ASTM D422)                   |
|                       |  | R                  | Laboratory electrical resistivity, ohm-cm (ASTM G57) |
|                       |  | VS                 | Field vane shear (ASTM D2573)                        |
|                       |  | RQD                | Rock quality designation, percent                    |
|                       |  | IR                 | Infiltration Test (ASTM D3385)                       |

| TERMINOLOGY          |  |                    |  |   |                         |                |                    |
|----------------------|--|--------------------|--|---|-------------------------|----------------|--------------------|
| Particle Sizes       |  |                    |  | Soil Layering and Moisture                |                         |                |                    |
| <u>Type</u>          | <u>Size Range</u>                      | <u>Term</u>        | <u>Visual Observation</u>                                |   |                         |                |                    |
| Boulders             | > 12"                                  | Lenses             | Small pockets of different soils                         |   |                         |                |                    |
| Cobbles              | 3" - 12"                               | Lamination         | < 1/4" thick stratum                                     |   |                         |                |                    |
| Coarse gravel        | 3/4" - 3"                              | Layer              | 1/4" - 12" thick stratum                                 |   |                         |                |                    |
| Fine gravel          | #4 sieve - 3/4"                        | Stratified         | Altering lenses of varying materials or colors           |   |                         |                |                    |
| Coarse sand          | #4 sieve - #10 sieve                   | Varved             | Altering laminations of clay, silt, fine sand, or colors |   |                         |                |                    |
| Medium sand          | #10 sieve - #40 sieve                  | Dry                | Powdery, no noticeable water                             |   |                         |                |                    |
| Fine sand            | #40 sieve - #200 sieve                 | Moist              | Damp, below saturation                                   |   |                         |                |                    |
| Silt                 | 100% passing #200 sieve, and > 0.002mm | Wet                | MC above plastic limit                                   |   |                         |                |                    |
| Clay                 | 100% passing #200 sieve, and < 0.002mm | Waterbearing       | Pervious soil below water table                          |   |                         |                |                    |
|                      |  | Saturated          | Cohesive soil with MC above liquid limit                 |   |                         |                |                    |
| Gravel Content       |  |                    |  | Standard Penetration Resistance (N-value) |                         |                |                    |
| Coarse-Grained Soils |  | Fine-Grained Soils |  | Cohesionless Soils                        |                         | Cohesive Soils |                    |
| <u>% Gravel</u>      | <u>Description</u>                     | <u>% Gravel</u>    | <u>Description</u>                                       | <u>N-Value</u>                            | <u>Relative Density</u> | <u>N-Value</u> | <u>Consistency</u> |
| 2 - 15               | A little gravel                        | 2-5                | Trace of gravel  | 0 - 4                                     | Very loose              | 0 - 4          | Very soft          |
| 16 - 30              | With gravel                            | 5 -15              | a little gravel  | 5 - 10                                    | Loose                   | 5 - 8          | Soft               |
| 31 - 49              | Gravelly                               | 16 - 30            | with gravel  | 11 - 30                                   | Medium dense            | 9 - 15         | Firm               |
|                      |  | 31 - 49            | Gravelly   | 31 - 50                                   | Dense                   | 16 - 30        | Hard               |
|                      |  |                    |  | >50                                       | Very dense              | >30            | Very hard          |

## NOTICE TO REPORT USERS BORING LOG INFORMATION

### Subsurface Profiles

The subsurface stratification lines on the graphic representation of the test borings show an approximate boundary between soil types or rock. The transition between materials is approximate and is usually far more gradual than shown. Estimating excavation depths, soil volumes, and other computations relying on the subsurface strata may not be possible to any degree of accuracy.

### Water Level

WSB & Associates, Inc. took groundwater level readings in the exploratory borings, reviewed the data obtained, and discussed its interpretation of the data in the text of this report. The groundwater level may fluctuate due to seasonal variations caused by precipitation, snowmelt, rainfalls, construction or remediation activities, and/or other factors not evident at the time of measurement.

The actual determination of the subsurface water level is an interpretive process. Subsurface water level may not be accurately depicted by the levels indicated on the boring logs. Normally, a subsurface exploration obtains general information regarding subsurface features for design purposes. An accurate determination of subsurface water levels is not possible with a typical scope of work. The use of the subsurface water level information provided for estimating purposes or other site review can present a moderate to high risk of error.

The following information is obtained in the field and noted under "Water Level Measurements" at the bottom of the log.

|                |  |
|----------------|--|
| Sample Depth:  | The lowest depth of soil sampling at the time a water level measurement is taken.                            |
| Casing Depth:  | The depth to the bottom of the casing or hollow stem auger at the time of water level measurement.           |
| Cave-in Depth: | The depth at which a measuring tape stops in the bore hole.  |
| Water Level:   | The point in the bore hole at which free-standing water is encountered by a measure device from the surface. |

### Obstruction Depths

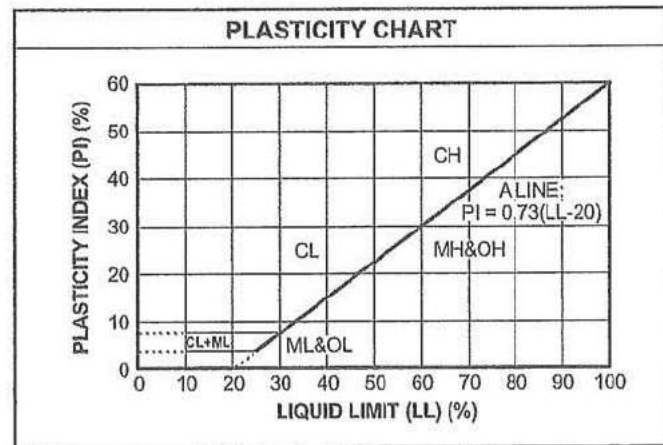
Obstructions and/or obstruction depths may be noted on the boring logs. Obstruction indicates the sampling equipment encountered resistance to penetration. It must be realized that continuation of drilling, the use of other drilling equipment or further exploration may provide information other than that depicted on the logs. The correlation of obstruction depths on the log with construction features such as rock excavation, foundation depths, or buried debris cannot normally be determined with any degree of accuracy. For example, penetration of weathered rock by soil sampling equipment may not correlate with removal by certain types of construction equipment. Using this information for estimating purposes often results in a high degree of misinterpretation.

Accurately identifying the obstruction or estimating depths where hard rock is present over the site requires a scope of service beyond the normal geotechnical exploration program. The risk of using the information noted on the boring logs for estimating purposes must be understood.

# UNIFIED SOIL CLASSIFICATION SYSTEM

| UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART  |  |  |
|---|--|--|
| <b>COARSE-GRAINED SOILS</b><br>(more than 50% of material is larger than No. 200 sieve size.) |  |  |
| <b>GRAVELS</b><br>More than 50% of coarse fraction larger than No. 4 sieve size               | Clean Gravels (Less than 5% fines)       |  |
|   | GW                                       | Well-graded gravels, gravel-sand mixtures, little or no fines  |
|   | GP                                       | Poorly-graded gravels, gravel-sand mixtures, little or no fines  |
|   | Gravels with fines (More than 12% fines) |  |
|   | GM                                       | Silty gravels, gravel-sand-silt mixtures   |
|   | GC                                       | Clayey gravels, gravel-sand-clay mixtures  |
| <b>SANDS</b><br>50% or more of coarse fraction smaller than No. 4 sieve size                  | Clean Sands (Less than 5% fines)         |  |
|   | SW                                       | Well-graded sands, gravelly sands, little or no fines  |
|   | SP                                       | Poorly graded sands, gravelly sands, little or no fines  |
|   | Sands with fines (More than 12% fines)   |  |
|   | SM                                       | Silty sands, sand-silt mixtures  |
|   | SC                                       | Clayey sands, sand-clay mixtures   |
| <b>FINE GRAINED SOILS</b><br>(50% or more of material is smaller than No. 200 sieve size.)    |  |  |
| <b>SILTS AND CLAYS</b><br>Liquid limit less than 50%  | ML                                       | Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity |
|   | CL                                       | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays                  |
|   | OL                                       | Organic silts and organic silty clays of low plasticity  |
| <b>SILTS AND CLAYS</b><br>Liquid limit 50% or greater   | MH                                       | Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts                                |
|   | CH                                       | Inorganic clays of high plasticity, fat clays  |
|   | OH                                       | Organic clays of medium to high plasticity, organic silts  |
| <b>HIGHLY ORGANIC SOILS</b>   | PT                                       | Peat and other highly organic soils  |

| LABORATORY CLASSIFICATION CRITERIA   |   |  |
|--|---|--|
| GW   | $C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3 |  |
| GP   | Not meeting all gradation requirements for GW   |  |
| GM   | Atterberg limits below "A" line or P.I. less than 4   | Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols                  |
| GC   | Atterberg limits above "A" line with P.I. greater than 7  |  |
| SW   | $C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3 |  |
| SP   | Not meeting all gradation requirements for GW   |  |
| SM   | Atterberg limits below "A" line or P.I. less than 4   | Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols. |
| SC   | Atterberg limits above "A" line with P.I. greater than 7  |  |
| Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:<br>Less than 5 percent ..... GW, GP, SW, SP<br>More than 12 percent ..... GM, GC, SM, SC<br>5 to 12 percent ..... Borderline cases requiring dual symbols |   |  |



Core C-12



Core C-13



Core C-14



Core C-28



Core C-29



## **APPENDIX B**

### **SANITARY DESIGN**

**Ritter Farm New Visitor Center Septic Flow Calculations for New Septic and New Pump Tank Sizing. Using existing At-Grade for final treatment.**

DATE: 10/22/2025

CLIENT: City of Lakeville  
20195 Holyoke Ave  
Lakeville, MN 55044

SITE: Ritter Farm  
19300 Ritter Parkway Trail  
Lakeville, MN 55044

DESIGNER: Dale J Denn  
HomeStead Septic  
1108 Goldenrod Lane  
Shakopee, MN 55379  
MPCA License #583  
Cell: 612-310-7887  
Email: [Homesteadseptic@outlook.com](mailto:Homesteadseptic@outlook.com)

INSTALLER: Not Selected

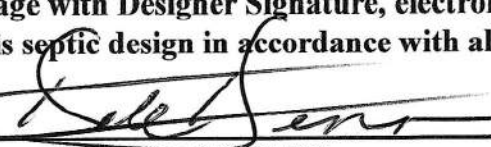
Local rules may vary from State Rules. Installer shall verify all aspects of applicable Local Rules and setbacks that may be more restrictive than State Rules. Local Units of Governments are required to publish any rule or portion thereof that differs from State Rules. Consult with Local Unit of Government.

No Utilities have been located or confirmed, property lines may or may not have been confirmed, nor sprinkler systems, nor existing landscaping, nor trees, nor fences, nor driveways, nor entry for construction activities or materials or staging of materials, nor anticipated damage to lawns or home fixtures or landscaping etc., nor any other construction related aspects have been identified within the scope of this design. *Installer to address all aspects of installation, permitting, and utility locates.*

Septic sites must remain protected by property owner up to the time of the septic installation.

If trees are removed, cut trees to within 6 inches of the ground and do not excavate.

**This Cover Page with Designer Signature, electronic or otherwise, hereby certifies that I have completed this septic design in accordance with all applicable State Septic Rules.**

**Dale Denn**  **3226** **10/22/2025**  
DESIGNER SIGNATURE MPCA CERT # DATE

**Note: This Design has full proprietary/ownership rights on behalf of Dale Denn, doing business as HomeStead Septic. This design can be revoked at any time for any reason and at any stage in the permit application or septic installation stage if this Design is not paid in full by the client or their agent or representative. LEIN RIGHTS APPLY AND PRE-LEIN NOTICE IS HEREBY GIVEN BY HOMESTEAD SEPTIC WITHIN THIS WRITTEN INSTRUMENT ON THE DATE ABOVE.**

Current Septic Design Information

New Visitor Center Septic Design Flow for Septic and Pump Tank Sizing at Ritter Farm.

October 23, 2025

Dale Denn  
HomeStead Septic  
Shakopee, MN 55379  
MPCA License 583.

Septic Design Flow for New Visitor Center at Ritter Farm Park.

A newer septic system has been installed for the existing building at Ritter Farm.

The decision was made to use the existing septic system and tie in the new effluent flow from the new visitor center. The visitor center will have its own septic tank and a lift station to pump the effluent up to the first existing septic tank. The existing septic tank is large enough to meet the code for septic tank sizing with a lift pump connected to it.

At the new visitor center, the pump station will be controlled by a time dose panel that will spread out and more evenly control the effluent going into the existing septic tank and the existing At-grade treatment system.

The timer will help smooth out peak effluent flow on high traffic weekend, holiday, or social events.

The new visitor center flow for septic and pump tank sizing is as follows:

**Flow Calculations:** Visitor center flow from the MPCA Septic Design Guidance Manual is 13 gallons per person per day.

Use estimate is 40 visitors per day on average across a week.

$40 \times 13 = 520$  gallons per day. Septic tank should be sized about 3 times daily flow = 1560 gallons. Tank to be installed is a 1500 two compartment septic tank.

**Pump Tank Sizing:** Utilize Friday through Sunday as 3 days with peak flow of 520 gallons = 1560 gallons. Pump out each day set to 150 gallons per day = 450 gallons pumped out.

On Monday, there would be  $1560 - 450 = 1110$  gallons. Monday through Thursday estimate flow assume 200 gallons per day =  $4 \times 200 = 800$  additional gallons into pump tank. But  $4 \times 150 = 600$  will be pumped out during the week. The additional effluent from Monday through Thursday is  $800 - 600 = 200$  gallons.

The total pump tank holding volume peaked out on a weekly basis is  $1110 + 200 = 1310$  gallons. Along with recommended reserve capacity of 50%, another 655 gallons would be needed. Minimum pump tank sizing would be  $1310 + 655 = 1965$  gallons.

As an added safety factor so as not to over dose the 300 gallon per day At – Grade treatment unit, increase the pump tank size to 3000.00. If a high level alarm sounds at any time, the accumulated reserve capacity has been reached and a pump tank pumping is needed by a Licensed Septic Pumper.

Install a 3000 gallon single compartment pump tank with time dosing of the pump. Set the timers initially to pump out 150 gallons per day. A service provider will need to be hired to initially set, monitor, and adjust pump timers as needed once some actual flow rate information has accumulated.

Prepared by Dale Denn. Homestead Septic. L583.

Signed and dated.

A handwritten signature in black ink, appearing to read "Dale Denn", with a long horizontal flourish extending to the right.

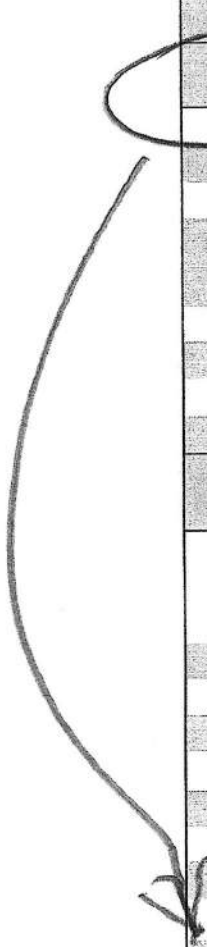
Dale Denn

10/23/2025

5-22 ■ SECTION 5: Wastewater Sources and Flows

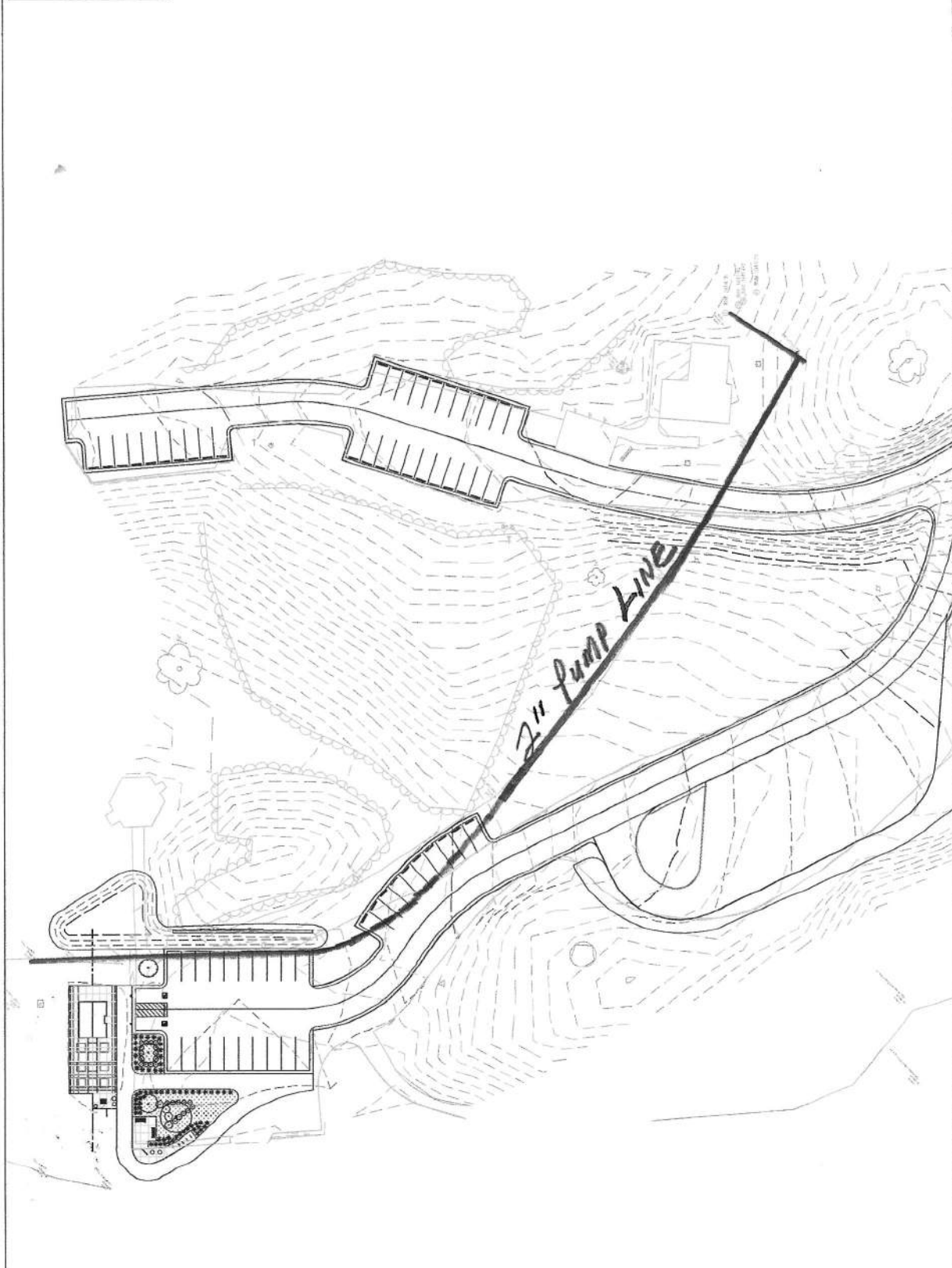
TABLE 5.6 Estimated Design Sewage Flow from Other Establishments (cont'd)

| Eating and drinking establishments                | Unit  | Design flow (gal/ day/unit) |
|---|---|-----------------------------|
| Restaurant (does not include bar or lounge)       | meal without alcoholic drinks                           | 3.5                         |
|   | meal with alcoholic drinks                              | 8                           |
|   | seat (open 16 hours or less)                            | 30                          |
|   | seat (open more than 16 hours)                          | 50                          |
|   | seat (open 16 hours or less, single service articles)   | 20                          |
|   | seat (open more than 16 hours, single service articles) | 35                          |
| Restaurant (short order)                          | customer  | 7                           |
| Restaurant (drive-in)                             | car space   | 30                          |
| Restaurant (carry out, including caterers)        | square foot   | 0.5                         |
| Institutional meals                               | meal  | 5.0                         |
| Food outlet                                       | square foot   | 0.2                         |
| Dining hall                                       | meal  | 8.5                         |
| Coffee shop                                       | customer  | 7                           |
| Cafeteria   | customer  | 2.5                         |
| Bar or lounge (no meals)                          | customer  | 4.5                         |
|   | seat  | 36                          |
| Entertainment establishments                      | Unit  | Design flow (gal/ day/unit) |
| Drive-in theater                                  | car stall   | 5                           |
| Theater/auditorium                                | seat  | 4.5                         |
| Bowling alley                                     | alley   | 185                         |
| Country club                                      | member (no meals)                                       | 22                          |
|   | member (with meals and showers)                         | 118                         |
|   | member (resident)                                       | 86                          |
| Fairground and other similar gatherings           | visitor   | 1.5                         |
| Stadium   | seat  | 5                           |
| Dance hall  | person  | 6                           |
| Health club/gym                                   | member  | 35                          |
| Outdoor recreation and related lodging facilities | Unit  | Design flow (gal/ day/unit) |
| Campground  | person with hook-up                                     | 32                          |
|   | site with hook-up                                       | 100                         |
|   | site without hook-up, with central bath                 | 50                          |
|   | site to be served by dump station                       | 63                          |
| Permanent mobile home                             | mobile home   | 225                         |
| Camp, day without meals                           | person  | 20                          |
| Camp, day with meals                              | person  | 25                          |
| Camp, day and night with meals                    | person  | 45                          |
| Resort/lodge hotel                                | person  | 62                          |
| Cabin, resort                                     | person  | 50                          |
| Retail resort store                               | customer  | 4                           |
| Park or swimming pool                             | guest   | 10                          |
| Visitor center                                    | visitor   | 13                          |



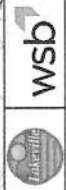
**LEGEND**

- CONSTRUCTION LIMITS
- - - - - EXISTING CONTOUR
- EXISTING DECIDUOUS TREE
- ⊗ EXISTING CONIFER TREE
- WOOD MULCH
- ⊕ TYPE I BEEB MIX



DATE: 9/22/2025 8:39 AM  
 FILENAME: M:\027938-000\CAD\03\_Sheets\027938-000-LP-PLAN-REST.dwg

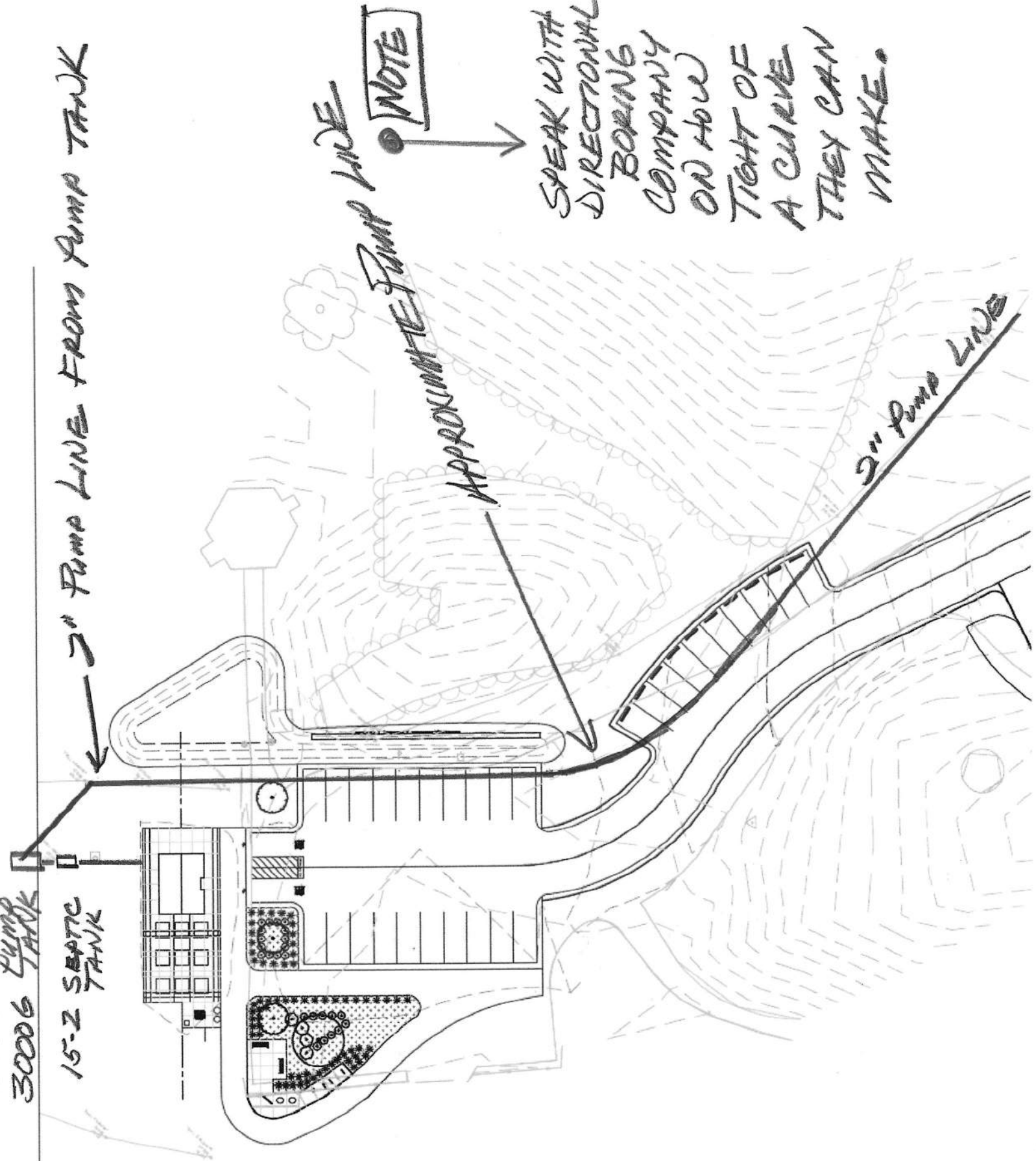
|   |                 |                |                        |  |                              |   |                             |
|---|-----------------|----------------|------------------------|--|------------------------------|---|-----------------------------|
| DRAWN BY: UD  | DESIGNED BY: CA | CHECKED BY: CA | DATE: 2025             | PROJECT NAME: LAKE MARION GREENWAY PROJECT | CITY OF LAKEVILLE, MINNESOTA | PROJECT: RITTER FARM TRAILHEAD LANDSCAPE PLAN | SHEET: S. A. P. XXX-XXX-XXX |
| I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME,<br>CANDACE AMBERS, P.L.A.,<br>A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT<br>UNDER THE LAWS OF THE STATE OF MINNESOTA. |                 |                | SIGNATURE: [Signature] | PRINTED NAME: CANDACE AMBERS, P.L.A.       | LIC. NO.: 421646             | Sheet No. of TOT Sheets                       |                             |



30006 Pump Tank

15-2 SEPTIC TANK

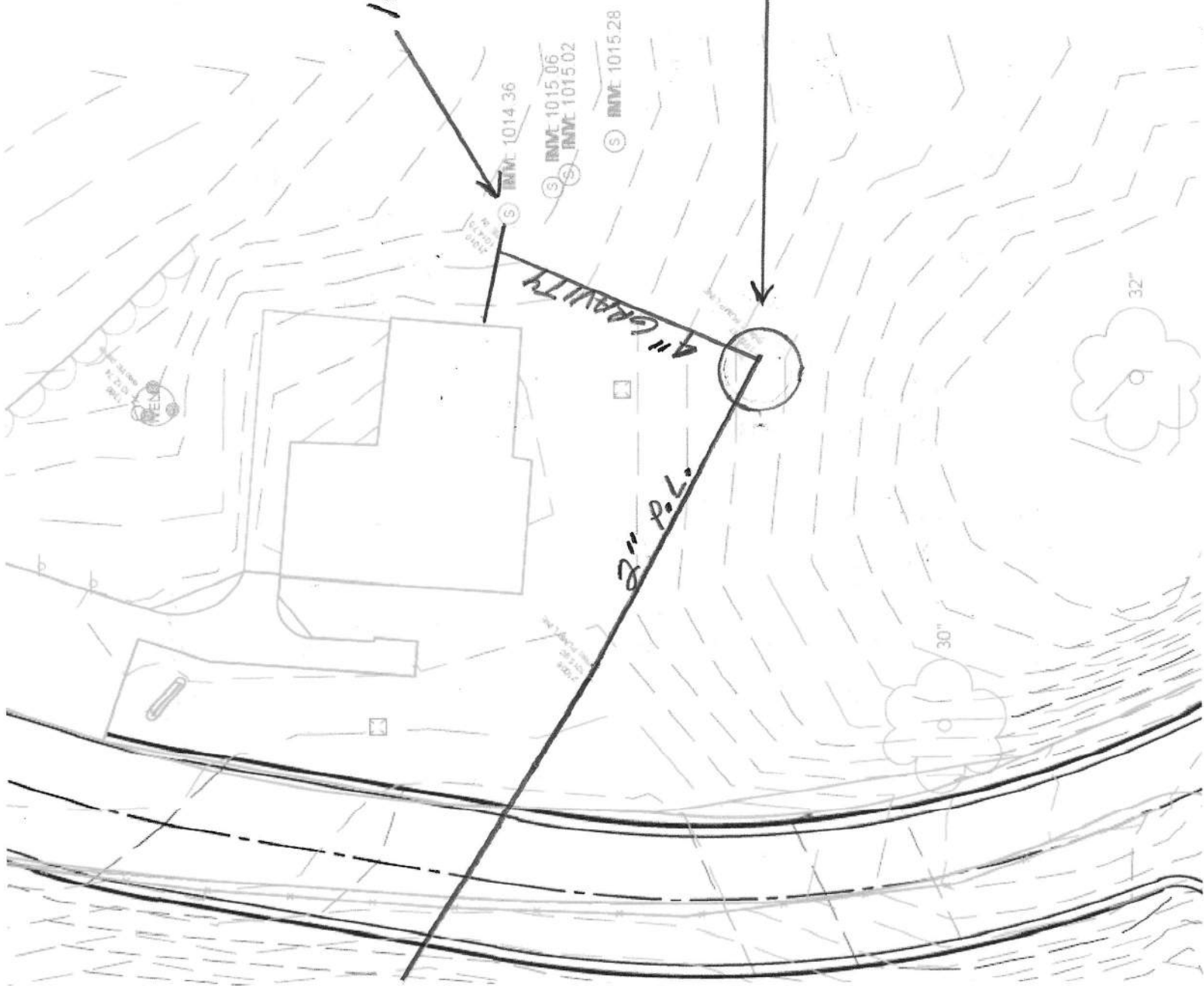
2" Pump Line FROM Pump TANK



SPEAK WITH  
 DIRECTIONAL  
 BORING  
 COMPANY  
 ON HOW  
 TIGHT OF  
 A CURVE  
 THEY CAN  
 MAKE.

1st SEPTIC TANK

2" PUMP LINE  
TO 4" PVC SEWER  
PIPE WITH GRAVITY  
FLOW TO EXISTING  
4" SEWER LINE TO  
FIRST SEPTIC TANK.



# Preliminary Evaluation Worksheet

## 1. Contact Information

v 04.01.2021

Property Owner/Client:  Date Completed:

Site Address:  Project ID:

Email:  Phone:

Mailing Address:  Alt Phone:

Legal Description:

Parcel ID:  SEC:  TWP:  RNG:

## 2. Flow and General System Information

### A. Client-Provided Information

Project Type:  New Construction     Replacement     Expansion     Repair

Project Use:  Residential     Other Establishment:

Residential use: # Bedrooms:  Dwelling Sq.ft.:  Unfinished Sq. Ft.:

# Adults:  # Children:  # Teenagers:

In-home business (Y/N):  If yes, describe:

Water-using devices: *(check all that apply)*

|  |  |  |
|--|--|--|
| <input type="checkbox"/> Garbage Disposal/Grinder  | <input type="checkbox"/> Dishwasher                    | <input type="checkbox"/> Hot Tub*                    |
| <input type="checkbox"/> Sewage pump in basement   | <input checked="" type="checkbox"/> Water Softener*    | <input type="checkbox"/> Sump Pump*                  |
| <input type="checkbox"/> Large Bathtub >40 gallons | <input type="checkbox"/> Iron Filter*                  | <input type="checkbox"/> Self-Cleaning Humidifier*   |
| <input type="checkbox"/> Clothes Washing Machine   | <input checked="" type="checkbox"/> High Eff. Furnace* | <input type="checkbox"/> Other: <input type="text"/> |

\* Clear water source - should not go into system

Additional current or future uses:

Anticipated non-domestic waste:

*The above is complete & accurate:*

*Client signature & date*

### B. Designer-determined flow Information

*Attach additional information as necessary.*

Design Flow:  GPD    Anticipated Waste Type:

BOD:  mg/L    TSS:  mg/L    Oil & Grease:  mg/L

## 3. Preliminary Site Information

### A. Water Supply Wells

| # | Description | Mn. ID# | Well Depth (ft.) | Casing Depth (ft.) | Confining Layer | STA Setback | Source |
|---|-------------|---------|------------------|--------------------|-----------------|-------------|--------|
| 1 |             |         |                  |                    |                 |             |        |
| 2 |             |         |                  |                    |                 |             |        |
| 3 |             |         |                  |                    |                 |             |        |
| 4 |             |         |                  |                    |                 |             |        |

Additional Well Information:

# Preliminary Evaluation Worksheet

|  |   |   |
|--|---|---|
| Site within 200' of noncommunity transient well (Y/N)  | <input type="text" value="No"/>   | Yes, source: <input style="width: 100%;" type="text"/>              |
| Site within a drinking water supply management area (Y/N)                                    | <input type="text" value="No"/>   | Yes, source: <input style="width: 100%;" type="text"/>              |
| Site in Well Head Protection inner wellhead management zone (Y/N)                            | <input type="text" value="No"/>   | Yes, source: <input style="width: 100%;" type="text"/>              |
| Buried water supply pipes within 50 ft of proposed system (Y/N)                              | <input type="text" value="No"/>   |   |
| <b>B. Site located in a shoreland district/area?</b>   | <input type="text" value="Yes"/>  | Yes, name: <input style="width: 100%;" type="text" value="Marion"/> |
| Elevation of ordinary high water level:  | <input style="width: 50%;" type="text"/> ft   | Source: <input style="width: 100%;" type="text"/>                   |
| Classification: <input style="width: 100%;" type="text" value="Lake - General Development"/> | Tank Setback: <input style="width: 50%;" type="text" value="75"/> ft.   | STA Setbk: <input style="width: 50%;" type="text" value="75"/> ft.  |
| <b>C. Site located in a floodplain?</b>  | <input type="text" value="No"/>   | Yes, Type(s): <input style="width: 100%;" type="text"/>             |
| Floodplain designation/elevation (10 Year):  | <input style="width: 50%;" type="text"/> ft   | Source: <input style="width: 100%;" type="text"/>                   |
| Floodplain designation/elevation (100 Year):   | <input style="width: 50%;" type="text"/> ft   | Source: <input style="width: 100%;" type="text"/>                   |
| <b>D. Property Line Id / Source:</b>   | <input type="checkbox"/> Owner <input type="checkbox"/> Survey <input checked="" type="checkbox"/> County GIS <input type="checkbox"/> Plat Map <input type="checkbox"/> Other: <input style="width: 100%;" type="text"/> |   |
| <b>E. ID distance of relevant setbacks on map:</b>   | <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Easements <input checked="" type="checkbox"/> Well(s)   |   |
|  | <input checked="" type="checkbox"/> Building(s) <input checked="" type="checkbox"/> Property Lines <input type="checkbox"/> OHWL <input type="checkbox"/> Other: <input style="width: 100%;" type="text"/>                |   |

**4. Preliminary Soil Profile Information From Web Soil Survey (attach map & description)**

|                                       |   |  |   |
|---------------------------------------|---|--|---|
| Map Units:                            | <input style="width: 95%;" type="text"/>    | Slope Range:   | <input style="width: 95%;" type="text"/> %  |
| List landforms:                       | <input style="width: 95%;" type="text"/>    |  |   |
| Landform position(s):                 | <input style="width: 95%;" type="text"/>    |  |   |
| Parent materials:                     | <input style="width: 95%;" type="text"/>    |  |   |
| Depth to Bedrock/Restrictive Feature: | <input style="width: 50%;" type="text"/> in | Depth to Watertable:   | <input style="width: 50%;" type="text"/> in |
| Map Unit Ratings                      | Septic Tank Absorption Field- At-grade:     | <input style="width: 95%;" type="text" value="Not Limited"/> |   |
|                                       | Septic Tank Absorption Field- Mound:        | <input style="width: 95%;" type="text"/>                     |   |
|                                       | Septic Tank Absorption Field- Trench:       | <input style="width: 95%;" type="text"/>                     |   |

**5. Local Government Unit Information**

|   |  |
|---|--|
| Name of LGU:                            | <input style="width: 95%;" type="text" value="Hampton Township"/>            |
| LGU Contact:                            | <input style="width: 95%;" type="text" value="Darril Gilmore 651-775-6118"/> |
| LGU-specific setbacks:                  | <input style="width: 95%;" type="text" value="Same as 7080"/>                |
| LGU-specific design requirements:       | <input style="width: 95%;" type="text" value="Same as 7080"/>                |
| LGU-specific installation requirements: | <input style="width: 95%;" type="text" value="Same as 7080"/>                |

Notes:

|  |   |  |
|--|---|--|
| <b>1. PROJECT INFORMATION</b>  |   | v 04.01.2021   |
| Property Owner/Client:   | <input type="text" value="City of Lakeville, Ritter Farm"/>   | Project ID: <input type="text"/>   |
| Site Address:  | <input type="text" value="19300 Ritter Parkway Trail"/>   | Date: <input type="text" value="10/23/25"/>  |
| Email Address:   | <input type="text"/>  | Phone: <input type="text" value="952-388-4250"/>   |
| <b>2. DESIGN FLOW &amp; WASTE STRENGTH</b> <i>Attach data / estimate basis for Other Establishments</i>            |   |  |
| Design Flow:   | <input type="text" value="520"/> GPD  | Anticipated Waste Type: <input type="text" value="Residential"/>                               |
| BOD:   | <input type="text" value="&lt;170"/> mg/L   | TSS: <input type="text" value="&lt;60"/> mg/L  |
|  |   | Oil & Grease: <input type="text" value="&lt;25"/> mg/L   |
| Treatment Level:   | <input type="text" value="C"/> <i>Select Treatment Level C for residential septic tank effluent</i> |  |
| <b>3. HOLDING TANK SIZING</b>  |   |  |
| Minimum Capacity: Residential =400 gal/bedroom, Other Establishment = Design Flow x 5.0, Minimum size 1000 gallons |   |  |
| Code Minimum Holding Tank Capacity:  | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Recommended Holding Tank Capacity:   | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Type of High Level Alarm:  | <input type="text"/> (Set @ 75% tank capacity)  |  |
| Comments:  | <input type="text"/>  |  |
| <b>4. SEPTIC TANK SIZING</b>   |   |  |
| <b>A. Residential dwellings:</b>   |   |  |
| Number of Bedrooms (Residential):  | <input type="text"/>  | <input type="text"/>   |
| Code Minimum Septic Tank Capacity:   | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Recommended Septic Tank Capacity:  | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Effluent Screen & Alarm (Y/N):   | <input type="text"/>  | Model/Type: <input type="text"/>   |
| <b>B. Other Establishments:</b>  |   |  |
| Waste received by:   | <input type="text" value="Gravity"/>  | <input type="text" value="520"/> GPD x <input type="text" value="3"/> Days Hyd. Retention Time |
| Code Minimum Septic Tank Capacity:   | <input type="text" value="1560"/> Gallons   | in <input type="text" value="2"/> Tanks or Compartments  |
| Recommended Septic Tank Capacity:  | <input type="text" value="1500"/> Gallons   | in <input type="text" value="2"/> Tanks or Compartments  |
| Effluent Screen & Alarm (Y/N):   | <input type="text" value="No"/>   | Model/Type: <input type="text"/>   |
| <b>5. PUMP TANK SIZING</b>   |   |  |
| Pump Tank 1 Capacity (Minimum):  | <input type="text" value="2000"/> Gal   | Pump Tank 2 Capacity (Minimum): <input type="text"/> Gal                                       |
| Pump Tank 1 Capacity (Recommended):  | <input type="text" value="3000"/> Gal   | Pump Tank 2 Capacity (Recommended): <input type="text"/> Gal                                   |
| Pump 1 <input type="text" value="25.0"/> GPM Total Head  | <input type="text" value="54.8"/> ft  | Pump 2 <input type="text"/> GPM Total Head <input type="text"/> ft                             |
| Supply Pipe Dia. <input type="text" value="2.00"/> in  | Dose Vol: <input type="text" value="75.0"/> gal   | Supply Pipe Dia. <input type="text"/> Dose Vol: <input type="text"/> Gal                       |

|  |                                       |                     |   |
|--|---------------------------------------|---------------------|---|
| <b>6. SYSTEM AND DISTRIBUTION TYPE</b> |                                       | Project ID: _____   |   |
| Soil Treatment Type:                   | <input type="text" value="At-Grade"/> | Distribution Type:  | <input type="text" value="Pressure Distribution-Level"/>  |
| Elevation Benchmark:                   | <input type="text" value="100"/> ft   | Benchmark Location: | <input type="text" value="Top of Block on Log Building"/> |
| MPCA System Type:                      | <input type="text" value="Type I"/>   | Distribution Media: | <input type="text" value="Rock"/>                         |
| Type III/IV/V Details:                 | <input type="text"/>                  |                     | <input type="text"/>                                      |

**7. SITE EVALUATION SUMMARY:**

Describe Limiting Condition:

Layers with >35% Rock Fragments? (yes/no)  If yes, describe below: % rock and layer thickness, amount of soil credit and any additional information for addressing the rock fragments in this design.

Note:

|                           | Depth                       | Depth                   | Elevation of Limiting Condition                 |
|---------------------------|-----------------------------|-------------------------|---|
| Limiting Condition:       | <input type="text"/> inches | <input type="text"/> ft | <input type="text"/> ft                         |
| Minimum Req'd Separation: | <input type="text"/> inches | <input type="text"/> ft | Elevation <i>Critical for system compliance</i> |
| Code Max System Depth:    | <input type="text"/> inches | <input type="text"/> ft | <input type="text"/> ft                         |

This is the maximum depth to the bottom of the distribution media for required separation. Negative Depth (ft) means it must be a mound.

Soil Texture:

Soil Hyd. Loading Rate:  GPD/ft<sup>2</sup>      Percolation Rate:  MPI

Contour Loading Rate:       Note:

Measured Land Slope:  %      Note:

Comments:

**8. SOIL TREATMENT AREA DESIGN SUMMARY**

**Trench:**

|                      |                                      |                 |                         |                        |                         |
|----------------------|--------------------------------------|-----------------|-------------------------|------------------------|-------------------------|
| Dispersal Area       | <input type="text"/> ft <sup>2</sup> | Sidewall Depth  | <input type="text"/> in | Trench Width           | <input type="text"/> ft |
| Total Lineal Feet    | <input type="text"/> ft              | No. of Trenches | <input type="text"/>    | Code Max. Trench Depth | <input type="text"/> in |
| Contour Loading Rate | <input type="text"/> ft              | Minimum Length  | <input type="text"/> ft | Designed Trench Depth  | <input type="text"/> in |

**Bed:**

|                |                                      |                |                         |                    |                         |
|----------------|--------------------------------------|----------------|-------------------------|--------------------|-------------------------|
| Dispersal Area | <input type="text"/> ft <sup>2</sup> | Sidewall Depth | <input type="text"/> in | Maximum Bed Depth  | <input type="text"/> in |
| Bed Width      | <input type="text"/> ft              | Bed Length     | <input type="text"/> ft | Designed Bed Depth | <input type="text"/> in |

**Mound:**

|                     |                                      |                 |                         |                      |                             |
|---------------------|--------------------------------------|-----------------|-------------------------|----------------------|-----------------------------|
| Dispersal Area      | <input type="text"/> ft <sup>2</sup> | Bed Length      | <input type="text"/> ft | Bed Width            | <input type="text"/> ft     |
| Absorption Width    | <input type="text"/> ft              | Clean Sand Lift | <input type="text"/> ft | Berm Width (0-1%)    | <input type="text"/> ft     |
| Upslope Berm Width  | <input type="text"/> ft              | Downslope Berm  | <input type="text"/> ft | Endslope Berm Width  | <input type="text"/> ft     |
| Total System Length | <input type="text"/> ft              | System Width    | <input type="text"/> ft | Contour Loading Rate | <input type="text"/> gal/ft |

Project ID: \_\_\_\_\_

**At-Grade:**

Bed Width  ft      Bed Length  ft      Finished Height  ft

Contour Loading Rate  gal/ft      Upslope Berm  ft      Downslope Berm  ft

Endslope Berm  ft      System Length  ft      System Width  ft

**Level & Equal Pressure Distribution**

No. of Laterals       Perforation Spacing  ft      Perforation Diameter  in

Lateral Diameter  in      Min Dose Volume  gal      Max Dose Volume  gal

**Non-Level and Unequal Pressure Distribution**

|           | Elevation (ft) | Pipe Size (in) | Pipe Volume (gal/ft) | Pipe Length (ft) | Perf Size (in) | Spacing (ft) | Spacing (in) |   |
|-----------|----------------|----------------|----------------------|------------------|----------------|--------------|--------------|---|
| Lateral 1 |                |                |                      |                  |                |              |              | Minimum Dose Volume<br><input type="text"/> gal |
| Lateral 2 |                |                |                      |                  |                |              |              |   |
| Lateral 3 |                |                |                      |                  |                |              |              |   |
| Lateral 4 |                |                |                      |                  |                |              |              | Maximum Dose Volume<br><input type="text"/> gal |
| Lateral 5 |                |                |                      |                  |                |              |              |   |
| Lateral 6 |                |                |                      |                  |                |              |              |   |

**9. Additional Info for At-Risk, HSW or Type IV Design**

A. Starting BOD Concentration = Design Flow X Starting BOD (mg/L) X 8.35 ÷ 1,000,000

gpd X  mg/L X 8.35 ÷ 1,000,000 =  lbs. BOD/day

B. Target BOD Concentration = Design Flow X Target BOD (mg/L) X 8.35 ÷ 1,000,000

gpd X  mg/L X 8.35 ÷ 1,000,000 =  lbs. BOD/day

Lbs. BOD To Be Removed:

PreTreatment Technology:  \*Must Meet or Exceed Target

Disinfection Technology:  \*Required for Levels A & B

C. Organic Loading to Soil Treatment Area:

mg/L X  gpd x 8.35 ÷ 1,000,000 ÷  ft<sup>2</sup> =  lbs./day/ft<sup>2</sup>

**10. Comments/Special Design Considerations:**

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

|                         |                                     |                    |                     |
|-------------------------|-------------------------------------|--------------------|---------------------|
| Dale Denn<br>(Designer) | <input type="text"/><br>(Signature) | 583<br>(License #) | 7/13/2022<br>(Date) |
|-------------------------|-------------------------------------|--------------------|---------------------|

1. PUMP CAPACITY Project ID: \_\_\_\_\_ v 04.01.2021

Pumping to Gravity or Pressure Distribution:

A. If pumping to gravity enter the gallon per minute of the pump:  GPM (10 - 45 gpm)

B. If pumping to a pressurized distribution system:  GPM

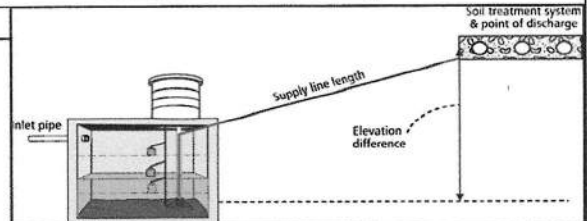
C. Enter pump description:

2. HEAD REQUIREMENTS

A. Elevation Difference  ft between pump and point of discharge:

B. Distribution Head Loss:  ft

C. Additional Head Loss:  ft (due to special equipment, etc.)



| Distribution Head Loss  |                        |
|---|------------------------|
| Gravity Distribution = 0ft  |                        |
| Pressure Distribution based on Minimum Average Head Value on Pressure Distribution Worksheet: |                        |
| Minimum Average Head  | Distribution Head Loss |
| 1ft   | 5ft                    |
| 2ft   | 6ft                    |
| 5ft   | 10ft                   |

Table I. Friction Loss in Plastic Pipe per 100ft

| Flow Rate (GPM) | Pipe Diameter (inches) |      |      |      |
|-----------------|------------------------|------|------|------|
|                 | 1                      | 1.25 | 1.5  | 2    |
| 10              | 9.1                    | 3.1  | 1.3  | 0.3  |
| 12              | 12.8                   | 4.3  | 1.8  | 0.4  |
| 14              | 17.0                   | 5.7  | 2.4  | 0.6  |
| 16              | 21.8                   | 7.3  | 3.0  | 0.7  |
| 18              |                        | 9.1  | 3.8  | 0.9  |
| 20              |                        | 11.1 | 4.6  | 1.1  |
| 25              |                        | 16.8 | 6.9  | 1.7  |
| 30              |                        | 23.5 | 9.7  | 2.4  |
| 35              |                        |      | 12.9 | 3.2  |
| 40              |                        |      | 16.5 | 4.1  |
| 45              |                        |      | 20.5 | 5.0  |
| 50              |                        |      |      | 6.1  |
| 55              |                        |      |      | 7.3  |
| 60              |                        |      |      | 8.6  |
| 65              |                        |      |      | 10.0 |
| 70              |                        |      |      | 11.4 |
| 75              |                        |      |      | 13.0 |
| 85              |                        |      |      | 16.4 |
| 95              |                        |      |      | 20.1 |

D. 1. Supply Pipe Diameter:  in

2. Supply Pipe Length:  ft

E. Friction Loss in Plastic Pipe per 100ft from Table I:

Friction Loss =  ft per 100ft of pipe

F. Determine *Equivalent Pipe Length* from pump discharge to soil dispersal area discharge point. Estimate by adding 25% to supply pipe length for fitting loss.  
*Supply Pipe Length X 1.25 = Equivalent Pipe Length*

ft X 1.25 =  ft

G. Calculate *Supply Friction Loss* by multiplying *Friction Loss Per 100ft* by the *Equivalent Pipe Length* and divide by 100.

Supply Friction Loss =  ft per 100ft X  ft ÷ 100 =  ft

H. *Total Head* requirement is the sum of the *Elevation Difference* + *Distribution Head Loss*, + *Additional Head Loss* + *Supply Friction Loss*

ft +  ft +  ft +  ft =  ft

3. PUMP SELECTION

A pump must be selected to deliver at least **25.0** GPM with at least **54.8** feet of total head.

Comments:

**DETERMINE TANK CAPACITY AND DIMENSIONS**

Project ID: \_\_\_\_\_

v 04.01.2021

1. A. Design Flow (Design Sum. 1A):  GPD B. Tank Use:
- C. Percentage of Design Flow  %  Gal Up to 75% design flow is normal for Design percentage
- D. Min. required pump tank capacity:  Gal E. Recommended capacity:  Gal

2. A. Tank Manufacturer:  B. Tank Model:
- C. Capacity from manufacturer:  Gallons *Note: Design calculations are based on this specific tank. Substituting a different tank model will change the pump float or timer settings. Contact designer if changes are necessary.*
- D. Gallons per inch:  Gallons per inch
- E. Liquid depth of tank from manufacturer:  inches

**DETERMINE DOSING VOLUME**

3. Volume to Cover Pump (The inlet of pump should be 4 in from the bottom of the tank & 2 in covering the pump recommended)

(Pump and block height + 2 inches) X Gallons Per Inch

( in + 2 inches) X  Gallons Per In =  Gallons

4. Minimum Delivered Volume = 4 X Volume of Distribution Piping:

-Item 18 of the Pressure Distribution or Item 11 of Non-level  Gallons (minimum dose)  inches/dose

5. Calculate Maximum Pumpout Volume (25% of Design Flow)

Design Flow:  GPD X 0.25 =  Gallons (maximum dose)  inches/dose

6. Select a pumpout volume that meets both Minimum and Maximum:  Gallons

7. Calculate Doses Per Day = Percentage Design Flow ÷ Delivered Volume

gpd ÷  gal =  Doses

8. Calculate Drainback:

A. Diameter of Supply Pipe =  inches

B. Length of Supply Pipe =  feet

C. Volume of Liquid Per Lineal Foot of Pipe =  Gallons/ft

D. Drainback = Length of Supply Pipe X Volume of Liquid Per Lineal Foot of Pipe

ft X  gal/ft =  Gallons

9. Total Dosing Volume = Delivered Volume plus Drainback

gal +  gal =  Gallons

10. Working Storage Volume = Tank Volume - Volume to Cover Pump - Reserve Capacity

gal -  gal -  =  Gallons

| Volume of Liquid in Pipe |                           |
|--------------------------|---------------------------|
| Pipe Diameter (inches)   | Liquid Per Foot (Gallons) |
| 1                        | 0.045                     |
| 1.25                     | 0.078                     |
| 1.5                      | 0.110                     |
| 2                        | 0.170                     |
| 3                        | 0.380                     |
| 4                        | 0.661                     |

11. Required Flow Rate:

A. From Pump Curve - Must verify after Install:  GPM\*

B. Calculated GPM = Change in Depth (in) x Gallons Per Inch / Time Interval in Minutes

in X  gal/in ÷  min =  GPM

*\*Note: This value must be adjusted after installation based on pump calibration.*

12. Select Flow Rate from Line 11.A or 11.B:  GPM\*

### NORMAL OPERATION TIMER SETTINGS\*

13. Calculate **TIMER ON** setting\*:

Total Dosing Volume ÷ GPM

$$\boxed{\phantom{000}} \text{ gal} \div \boxed{\phantom{000}} \text{ gpm} = \boxed{\phantom{000}} \text{ Minutes ON}^* \begin{matrix} \text{HR} & \text{MIN} & \text{SEC} \\ \boxed{\phantom{00}} & \boxed{\phantom{00}} & \boxed{\phantom{00}} \end{matrix}$$

14. Calculated **TIMER OFF** setting\*:

Minutes Per Day (1440) / Doses Per Day - Minutes On

$$1440 \text{ min} \div \boxed{\phantom{00}} \text{ doses/day} - \boxed{\phantom{000}} \text{ min} = \boxed{\phantom{000}} \text{ Minutes OFF}^* \begin{matrix} \text{HR} & \text{MIN} & \text{SEC} \\ \boxed{\phantom{00}} & \boxed{\phantom{00}} & \boxed{\phantom{00}} \end{matrix}$$

### OPTIONAL PEAK ENABLE DOSING\* - Desingers option for peak flow operation

15. Peak Percentage of Design Flow  %

16. Peak Pump Volume that meets both Minimum and Maximum Volume  gal + DrainBack  gal

17. Peak Dose Volume  gal HR MIN SEC

18. Peak TIMER ON  gal ÷  gpm =  min ON HR MIN SEC

*\*Note: This value must be adjusted after installation based on pump calibration.*

19. Peak TIMER OFF: 1440 min ÷  doses/day -  min On  min Off HR MIN SEC

### FLOAT SETTINGS

20. Pump Off Float - Measuring from bottom of tank:

Distance to set Pump Off Float = Gallons to Cover Pump / Gallons Per Inch:

$$\boxed{\phantom{000}} \text{ gal} \div \boxed{\phantom{000}} \text{ gal/in} = \boxed{\phantom{000}} \text{ Inches}$$

Reserve Capacity  Gal

Alarm Depth  in

21. Alarm Float - Measuring from bottom of tank (90% recommended):

Distance to set Alarm Float = Tank Depth X % of Tank Depth (90% recommended)

$$\boxed{\phantom{000}} \text{ in} \times \boxed{\phantom{000}} \% = \boxed{\phantom{000}} \text{ Inches}$$

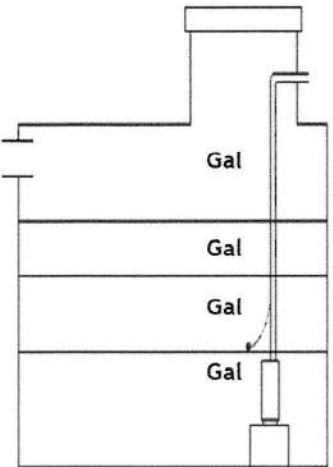
Storage Capacity  Gal

Normal Dose Volume  Gal

Pump Off  in

22. Reserve Capacity in gallons = (Tank Depth - Alarm Depth) X GPI

$$(\boxed{\phantom{000}} \text{ in} + \boxed{\phantom{000}} \text{ in}) \times \boxed{\phantom{000}} = \boxed{\phantom{000}} \text{ gallons}$$



Existing Septic System Information for reference purposes. No new design criteria here.

MECHANICAL CONTRACTOR

Alternate  
Septic Route

821 - 8" SANITARY  
SPEL = 10000' ± ARCH 88-37  
SPEL = 12  
SPEL SLOPE = 2%

BUILDING ADDITION  
REFER TO ARCHITECT  
LAYOUT AND DIMENS  
TYP. 1998-760 ARCH



BM

35' 4" SEWER

15-2 S.O.T.

2000 P.T.  
WITH TIMER

75' 2" PUMP LINE

2035

↑  
NOT  
P.L.

↑  
AT-GRADE

19300 RITTER PARKWAY TRAIL



# Preliminary Evaluation Worksheet

v 04.01.2021

## 1. Contact Information

Property Owner/Client:  Date Completed:

Site Address:  Project ID:

Email:  Phone:

Mailing Address:  Alt Phone:

Legal Description:

Parcel ID:  SEC:  TWP:  RNG:

## 2. Flow and General System Information

### A. Client-Provided Information

Project Type:  New Construction  Replacement  Expansion  Repair

Project Use:  Residential  Other Establishment:

Residential use: # Bedrooms:  Dwelling Sq.ft.:  Unfinished Sq. Ft.:

# Adults:  # Children:  # Teenagers:

In-home business (Y/N):  If yes, describe:

Water-using devices: (check all that apply)

|  |  |  |
|--|--|--|
| <input type="checkbox"/> Garbage Disposal/Grinder  | <input type="checkbox"/> Dishwasher                    | <input type="checkbox"/> Hot Tub*                    |
| <input type="checkbox"/> Sewage pump in basement   | <input checked="" type="checkbox"/> Water Softener*    | <input type="checkbox"/> Sump Pump*                  |
| <input type="checkbox"/> Large Bathtub >40 gallons | <input type="checkbox"/> Iron Filter*                  | <input type="checkbox"/> Self-Cleaning Humidifier*   |
| <input type="checkbox"/> Clothes Washing Machine   | <input checked="" type="checkbox"/> High Eff. Furnace* | <input type="checkbox"/> Other: <input type="text"/> |

\* Clear water source - should not go into system

Additional current or future uses:

Anticipated non-domestic waste:

The above is complete & accurate:

*Client signature & date*

### B. Designer-determined flow Information

*Attach additional information as necessary.*

Design Flow:  GPD Anticipated Waste Type:

BOD:  mg/L TS:  mg/L Oil & Grease  mg/L

## 3. Preliminary Site Information

### A. Water Supply Wells

| # | Description | Mn. ID# | Well Depth (ft.) | Casing Depth (ft.) | Confining Layer | STA Setback | Source |
|---|-------------|---------|------------------|--------------------|-----------------|-------------|--------|
| 1 |             |         |                  |                    |                 |             |        |
| 2 |             |         |                  |                    |                 |             |        |
| 3 |             |         |                  |                    |                 |             |        |
| 4 |             |         |                  |                    |                 |             |        |

Additional Well Information:

|   |   |  |
|---|---|--|
| <b>1. PROJECT INFORMATION</b>   |   | v 04.01.2021   |
| Property Owner/Client:  | <input type="text" value="City of Lakeville, Ritter Farm"/>   | Project ID: <input type="text"/>   |
| Site Address:   | <input type="text" value="19300 Ritter Parkway Trail"/>   | Date: <input type="text" value="07/13/22"/>  |
| Email Address:  | <input type="text" value="jbarrick@loefflerconstruction.com"/>  | Phone: <input type="text" value="952-388-4250"/>   |
| <b>2. DESIGN FLOW &amp; WASTE STRENGTH</b> <small>Attach data / estimate basis for Other Establishments</small>                   |   |  |
| Design Flow:  | <input type="text" value="300"/> GPD  | Anticipated Waste Type: <input type="text" value="Residential"/>                               |
| BOD:  | <input type="text" value="&lt;170"/> mg/L   | TSS: <input type="text" value="&lt;60"/> mg/L  |
|   |   | Oil & Grease: <input type="text" value="&lt;25"/> mg/L   |
| Treatment Level:  | <input type="text" value="C"/> <small>Select Treatment Level C for residential septic tank effluent</small> |  |
| <b>3. HOLDING TANK SIZING</b>   |   |  |
| <small>Minimum Capacity: Residential =400 gal/bedroom, Other Establishment = Design Flow x 5.0, Minimum size 1000 gallons</small> |   |  |
| Code Minimum Holding Tank Capacity:   | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Recommended Holding Tank Capacity:  | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Type of High Level Alarm:   | <input type="text"/> (Set @ 75% tank capacity)  |  |
| Comments:   | <input type="text"/>  |  |
| <b>4. SEPTIC TANK SIZING</b>  |   |  |
| <b>A. Residential dwellings:</b>  |   |  |
| Number of Bedrooms (Residential):   | <input type="text"/>  |  |
| Code Minimum Septic Tank Capacity:  | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Recommended Septic Tank Capacity:   | <input type="text"/> Gallons  | in <input type="text"/> Tanks or Compartments  |
| Effluent Screen & Alarm (Y/N):  | <input type="text"/>  | Model/ Type: <input type="text"/>  |
| <b>B. Other Establishments:</b>   |   |  |
| Waste received by:  | <input type="text" value="Gravity"/>  | <input type="text" value="300"/> GPD x <input type="text" value="3"/> Days Hyd. Retention Time |
| Code Minimum Septic Tank Capacity:  | <input type="text" value="1000"/> Gallons   | in <input type="text" value="2"/> Tanks or Compartments  |
| Recommended Septic Tank Capacity:   | <input type="text" value="1500"/> Gallons   | in <input type="text" value="2"/> Tanks or Compartments  |
| Effluent Screen & Alarm (Y/N):  | <input type="text" value="No"/>   | Model/ Type: <input type="text"/>  |
| <b>5. PUMP TANK SIZING</b>  |   |  |
| Pump Tank 1 Capacity (Minimum):   | <input type="text" value="1250"/> Gal   | Pump Tank 2 Capacity (Minimum): <input type="text"/> Gal                                       |
| Pump Tank 1 Capacity (Recommended):   | <input type="text" value="3000"/> Gal   | Pump Tank 2 Capacity (Recommended): <input type="text"/> Gal                                   |
| Pump 1 <input type="text" value="15.0"/> GPM  | Total Head <input type="text" value="17.7"/> ft   | Pump 2 <input type="text"/> GPM  |
|   |   | Total Head <input type="text"/> ft   |
| Supply Pipe Dia. <input type="text" value="2.00"/> in   | Dose Vol: <input type="text" value="161.0"/> gal  | Supply Pipe Dia. <input type="text"/>  |
|   |   | Dose Vol: <input type="text"/> Gal   |

|  |                                       |                     |   |
|--|---------------------------------------|---------------------|---|
| <b>6. SYSTEM AND DISTRIBUTION TYPE</b> |                                       | Project ID: _____   |   |
| Soil Treatment Type:                   | <input type="text" value="At-Grade"/> | Distribution Type:  | <input type="text" value="Pressure Distribution-Level"/>  |
| Elevation Benchmark:                   | <input type="text" value="100"/> ft   | Benchmark Location: | <input type="text" value="Top of Block on Log Building"/> |
| MPCA System Type:                      | <input type="text" value="Type I"/>   | Distribution Media: | <input type="text" value="Rock"/>                         |
| Type III/IV/V Details:                 | <input type="text"/>                  |                     | <input type="text"/>                                      |

|  |   |                                     |   |
|--|---|-------------------------------------|---|
| <b>7. SITE EVALUATION SUMMARY:</b>   |   |                                     |   |
| Describe Limiting Condition: <input type="text" value="Redoximorphic Features/Saturated Soils"/>   |   |                                     |   |
| Layers with >35% Rock Fragments? (yes/no) <input type="text" value="No"/> If yes, describe below: % rock and layer thickness, amount of soil credit and any additional information for addressing the rock fragments in this design. |   |                                     |   |
| Note: <input type="text"/>   |   |                                     |   |
|  | Depth   | Depth                               | Elevation of Limiting Condition                 |
| Limiting Condition:  | <input type="text" value="42"/> inches                | <input type="text" value="3.5"/> ft | <input type="text" value="102.25"/> ft          |
| Minimum Req'd Separation:  | <input type="text" value="36"/> inches                | <input type="text" value="3.0"/> ft | <i>Elevation Critical for system compliance</i> |
| Code Max System Depth:   | <input type="text" value="6"/> inches                 | <input type="text" value="0.5"/> ft | <input type="text" value="105.25"/> ft          |
| <small>This is the maximum depth to the bottom of the distribution media for required separation. Negative Depth (ft) means it must be a mound.</small>  |   |                                     |   |
| Soil Texture:  | <input type="text" value="Medium Sandy Loam"/>        |                                     |   |
| Soil Hyd. Loading Rate:  | <input type="text" value="0.78"/> GPD/ft <sup>2</sup> | Percolation Rate:                   | <input type="text" value="17.00"/> MPI          |
| Contour Loading Rate:  | <input type="text" value="5"/>                        | Note:                               | <input type="text"/>                            |
| Measured Land Slope:   | <input type="text" value="8"/> %                      | Note:                               | <input type="text"/>                            |
| Comments:  | <input type="text"/>                                  |                                     |   |

|  |                                      |                        |                             |
|--|--------------------------------------|------------------------|-----------------------------|
| <b>8. SOIL TREATMENT AREA DESIGN SUMMARY</b> |                                      |                        |                             |
| <b>Trench:</b>                               |                                      |                        |                             |
| Dispersion Area                              | <input type="text"/> ft <sup>2</sup> | Sidewall Depth         | <input type="text"/> in     |
| Total Lineal Feet                            | <input type="text"/> ft              | No. of Trenches        | <input type="text"/>        |
| Contour Loading Rate                         | <input type="text"/> ft              | Minimum Length         | <input type="text"/> ft     |
|  |                                      | Trench Width           | <input type="text"/> ft     |
|  |                                      | Code Max. Trench Depth | <input type="text"/> in     |
|  |                                      | Designed Trench Depth  | <input type="text"/> in     |
| <b>Bed:</b>                                  |                                      |                        |                             |
| Dispersion Area                              | <input type="text"/> ft <sup>2</sup> | Sidewall Depth         | <input type="text"/> in     |
| Bed Width                                    | <input type="text"/> ft              | Bed Length             | <input type="text"/> ft     |
|  |                                      | Maximum Bed Depth      | <input type="text"/> in     |
|  |                                      | Designed Bed Depth     | <input type="text"/> in     |
| <b>Mound:</b>                                |                                      |                        |                             |
| Dispersion Area                              | <input type="text"/> ft <sup>2</sup> | Bed Length             | <input type="text"/> ft     |
| Absorption Width                             | <input type="text"/> ft              | Clean Sand Lift        | <input type="text"/> ft     |
| Upslope Berm Width                           | <input type="text"/> ft              | Downslope Berm         | <input type="text"/> ft     |
| Total System Length                          | <input type="text"/> ft              | System Width           | <input type="text"/> ft     |
|  |                                      | Berm Width (0-1%)      | <input type="text"/> ft     |
|  |                                      | Endslope Berm Width    | <input type="text"/> ft     |
|  |                                      | Contour Loading Rate   | <input type="text"/> gal/ft |

Project ID: \_\_\_\_\_

**At-Grade:**

|   |   |  |
|---|---|--|
| Bed Width <input style="width: 50px;" type="text" value="6.4"/> ft              | Bed Length <input style="width: 50px;" type="text" value="60"/> ft      | Finished Height <input style="width: 50px;" type="text" value="1.8"/> ft |
| Contour Loading Rate <input style="width: 50px;" type="text" value="5"/> gal/ft | Upslope Berm <input style="width: 50px;" type="text" value="5.3"/> ft   | Downslope Berm <input style="width: 50px;" type="text" value="11.4"/> ft |
| Endslope Berm <input style="width: 50px;" type="text" value="7.0"/> ft          | System Length <input style="width: 50px;" type="text" value="74.0"/> ft | System Width <input style="width: 50px;" type="text" value="16.7"/> ft   |

**Level & Equal Pressure Distribution**

|  |  |   |
|--|--|---|
| No. of Laterals <input style="width: 50px;" type="text" value="1"/>        | Perforation Spacing <input style="width: 50px;" type="text" value="3"/> ft | Perforation Diameter <input style="width: 50px;" type="text" value="1/4"/> in |
| Lateral Diameter <input style="width: 50px;" type="text" value="2.00"/> in | Min Dose Volume <input style="width: 50px;" type="text" value="39"/> gal   | Max Dose Volume <input style="width: 50px;" type="text" value="75"/> gal      |

**Non-Level and Unequal Pressure Distribution**

|           | Elevation (ft) | Pipe Size (in) | Pipe Volume (gal/ft) | Pipe Length (ft) | Perf Size (in) | Spacing (ft) | Spacing (in) |  |
|-----------|----------------|----------------|----------------------|------------------|----------------|--------------|--------------|--|
| Lateral 1 |                |                |                      |                  |                |              |              | Minimum Dose Volume<br><input style="width: 50px;" type="text"/> gal |
| Lateral 2 |                |                |                      |                  |                |              |              |  |
| Lateral 3 |                |                |                      |                  |                |              |              |  |
| Lateral 4 |                |                |                      |                  |                |              |              | Maximum Dose Volume<br><input style="width: 50px;" type="text"/> gal |
| Lateral 5 |                |                |                      |                  |                |              |              |  |
| Lateral 6 |                |                |                      |                  |                |              |              |  |

**9. Additional Info for At-Risk, HSW or Type IV Design**

A. Starting BOD Concentration = Design Flow X Starting BOD (mg/L) X 8.35 ÷ 1,000,000

gpd X  mg/L X 8.35 ÷ 1,000,000 =  lbs. BOD/day

B. Target BOD Concentration = Design Flow X Target BOD (mg/L) X 8.35 ÷ 1,000,000

gpd X  mg/L X 8.35 ÷ 1,000,000 =  lbs. BOD/day

Lbs. BOD To Be Removed:

PreTreatment Technology:  \*Must Meet or Exceed Target

Disinfection Technology:  \*Required for Levels A & B

C. Organic Loading to Soil Treatment Area:

mg/L X  gpd x 8.35 ÷ 1,000,000 ÷  ft<sup>2</sup> =  lbs./day/ft<sup>2</sup>

**10. Comments/Special Design Considerations:**

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

|                         |  |                    |                     |
|-------------------------|--|--------------------|---------------------|
| Dale Denn<br>(Designer) |  | 583<br>(License #) | 7/13/2022<br>(Date) |
|-------------------------|--|--------------------|---------------------|



# At-Grade Design Worksheet

**m** MINNESOTA POLLUTION CONTROL AGENCY

|   |   |
|---|---|
| <b>1. DISPERSAL MEDIA SIZING:</b>   | Project ID: v 04.01.2021  |
| A. Design Flow: <input type="text" value="300"/> GPD  | C. % Land Slope: <input type="text" value="8.0"/> %   |
| B. Soil Loading Rate: <input type="text" value="0.78"/> GPD/ft <sup>2</sup>   | D. Contour Loading Rate: <input type="text" value="5"/> GPD/ft  |
| E. Absorption Bed Width = Contour Loading Rate ÷ Soil Loading Rate <span style="float: right;">Cannot exceed 15 feet</span> |   |
| <input type="text" value="5"/> GPD/ft <sup>2</sup> ÷ <input type="text" value="0.78"/> GPD/ft =                             | <input type="text" value="6.4"/> ft   |
| F. Absorption Bed Length = Design Flow ÷ Contour Loading Rate   |   |
| <input type="text" value="300"/> GPD ÷ <input type="text" value="5"/> GPD/ft =  | <input type="text" value="60"/> ft  |
| G. Required Absorption Bed Area = Design Flow ÷ Soil Loading Rate   |   |
| <input type="text" value="300"/> gpd ÷ <input type="text" value="0.78"/> GPD/ft <sup>2</sup> =                              | <input type="text" value="385"/> ft <sup>2</sup>  |
| H. Type of Distribution Media: <input type="text" value="Rock"/>  | <input type="text"/>  |
| <b>2. BERM SIZING:</b>  |   |
| A. Determine System Height = Full depth of media + 12" cover  |   |
| 1. a Rock below pipe + (Dia pipe + Rock above pipe (total 3 inches)) OR   |   |
| 1. b Registered Media Size + 12" Cover <i>See product registration information</i>  |   |
| <input type="text" value="6"/> in   | <input type="text" value="0.5"/> ft + <input type="text" value="0.25"/> ft + 1ft = <input type="text" value="1.75"/> ft |
| Media Depth (in)  | Media Depth (ft) + Dia of Pipe + 1 in + 1 foot required cover   |
| B. Determine Upslope Berm Width   |   |
| 1. Upslope Multiplier based on percent slope (see Slope Multiplier Table) <input type="text" value="3.03"/>                 |   |
| 2. On Slopes >1% Upslope Width = Upslope Multiplier (2.B) X System Height (2.A)   |   |
| <input type="text" value="3.03"/> X <input type="text" value="1.8"/> ft =   | <input type="text" value="5.3"/> ft   |
| 3. On Slopes <1%, Upslope Width = (0.5 X Absorption Bed Width (1.E)) + 5 ft   |   |
| ( 0.5 X <input type="text" value="6.4"/> ft ) + 5 ft =  | <input type="text" value="8.2"/> ft   |
| 4. Choose B.2 or B.3 depending on slope <input type="text" value="5.3"/> ft   |   |
| C. Determine Downslope Berm Width   |   |
| 1. Downslope Multiplier based on percent slope (see Table): <input type="text" value="5.88"/>                               |   |
| 2. Downslope Width = Downslope Multiplier X System Height   |   |
| <input type="text" value="5.88"/> X <input type="text" value="1.8"/> ft =   | <input type="text" value="10.3"/> ft  |
| 3. Absorption Bed Width + 5 feet =  |   |
| <input type="text" value="6.4"/> ft + 5   | = <input type="text" value="11.4"/> ft  |
| 4. On slopes >1%, Downslope Berm Width equals greater of C.2 and C.3 = <input type="text" value="11.4"/> ft                 |   |
| 5. On slopes <1%, Downslope Berm Width equals 0.5 X Absorption Bed Width + 5 feet   |   |
| ( 0.5 X <input type="text" value="6.4"/> ft + 5 ft =  | <input type="text" value="8.2"/> ft   |
| 6. Choose C.4 or C.5 depending on slope: <input type="text" value="11.4"/> ft   |   |

D. Endslope Multiplier (Minimum 4.0)

E. Endslope Width = Endslope Multiplier X System Height (Endslope Minimum of 6 feet)  
 X  ft =  ft

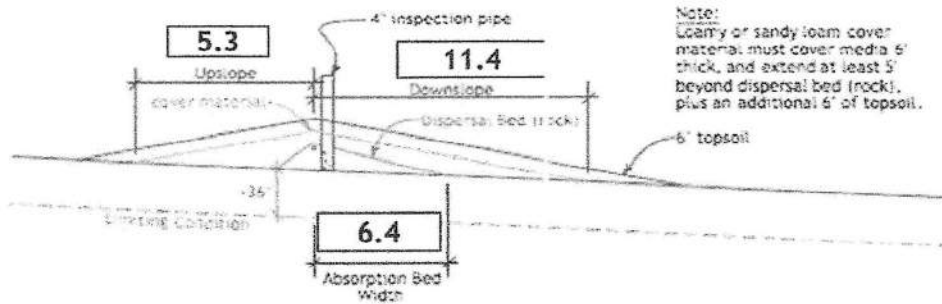
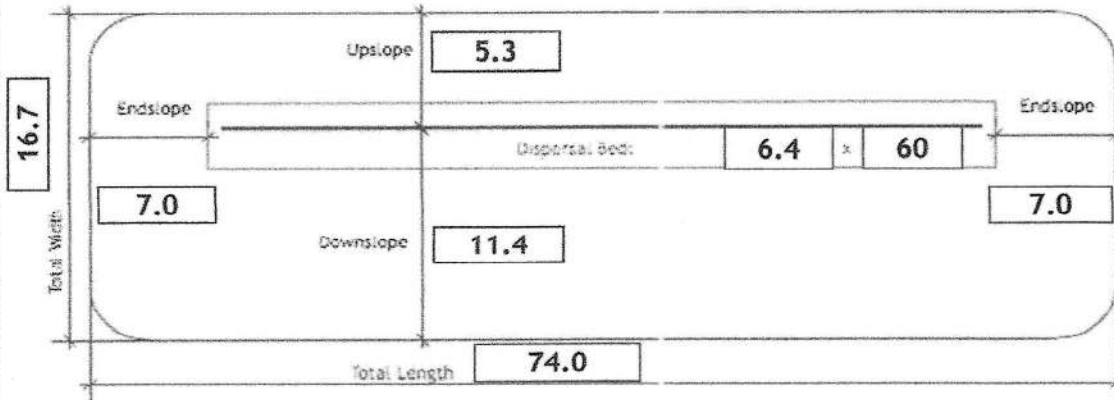
F. System Width = The sum of the Upslope Width + Downslope Width  
 ft +  ft =  ft

G. System Length = Sum of the Endslope Width + Absorption Bed Length + Endslope Width  
 ft +  ft +  ft =  ft

Check registered product information for specific application details and design

3. AT-GRADE DIMENSIONS: (Feet)

Project ID:



Note: For 0 to 1% slopes, Absorption Width is measured from the pipe and divided equally in both directions. For slopes > 1%, Absorption Width is measured downhill from the pipe.

Required Separation  (in)      Distribution Media

Manifold Connection:       Media Depth  (in)

Perforation Size:  (in)      Perforation Spacing  (in)

If Split and Non-Level Pressure Distribution Used: See Non-Level Pressure Distribution Form

## 4. APPROXIMATE VOLUME CALCULATIONS:

Project ID:

*If rock is used as the distribution media:*

A. Rock Area = Absorption Bed Length X (Additional rock upslope of lateral + Absorption Bed Width)

$$60.0 \text{ ft} \times (1 \text{ ft} + 6.4 \text{ ft}) = 444.6 \text{ ft}^2$$

B. Rock Volume in Cubic Feet = Rock Area X Depth of Media (Rock) and  $\div \times 2$ 

$$444.6 \text{ ft}^2 \times 0.75 \text{ ft} \div 2 = 166.7 \text{ ft}^3$$

C. Rock Volume in Cubic Yards = Volume in Cubic Feet  $\div 27$ 

$$166.7 \text{ ft}^3 \div 27 = 6.2 \text{ yd}^3$$

D. Add 20% for constructability:

$$6.2 \text{ yd}^3 \times 1.2 = 7.4 \text{ yd}^3$$

E. Loamy or Sandy Loam Cover Material Volume :

Volume in Cubic Feet = System Width X System Length X 1.5  $\div 2$ , minus rock volume

$$16.7 \text{ ft} \times 74.0 \text{ ft} \times 1.5 \div 2 - 166.7 \text{ ft}^3 = 760.8$$

F. Loamy or Sandy Loam Cover Volume in Cubic Yards = Volume in Cubic Feet  $\div$  by 27

$$760.8 \text{ ft}^3 \div 27 = 28.2 \text{ yd}^3$$

G. Add 20% for constructability:

$$28.2 \text{ yd}^3 \times 1.2 = 33.8 \text{ yd}^3$$

H. Topsoil Volume in Cubic Feet = System width X System Length x 0.5

$$16.7 \text{ ft} \times 74.0 \text{ ft} \times 0.5 = 618.4 \text{ ft}^3$$

I. Topsoil Volume in Cubic Yards = Volume in Cubic Feet  $\div$  by 27

$$618.4 \text{ ft}^3 \div 27 = 22.9 \text{ yd}^3$$

J. Add 20% for constructability:

$$22.9 \text{ yd}^3 \times 1.2 = 27.5 \text{ yd}^3$$

## 5. Comments:

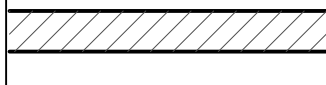
|  |
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|  |
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## APPENDIX C

### PICNIC SHELTER DESIGN



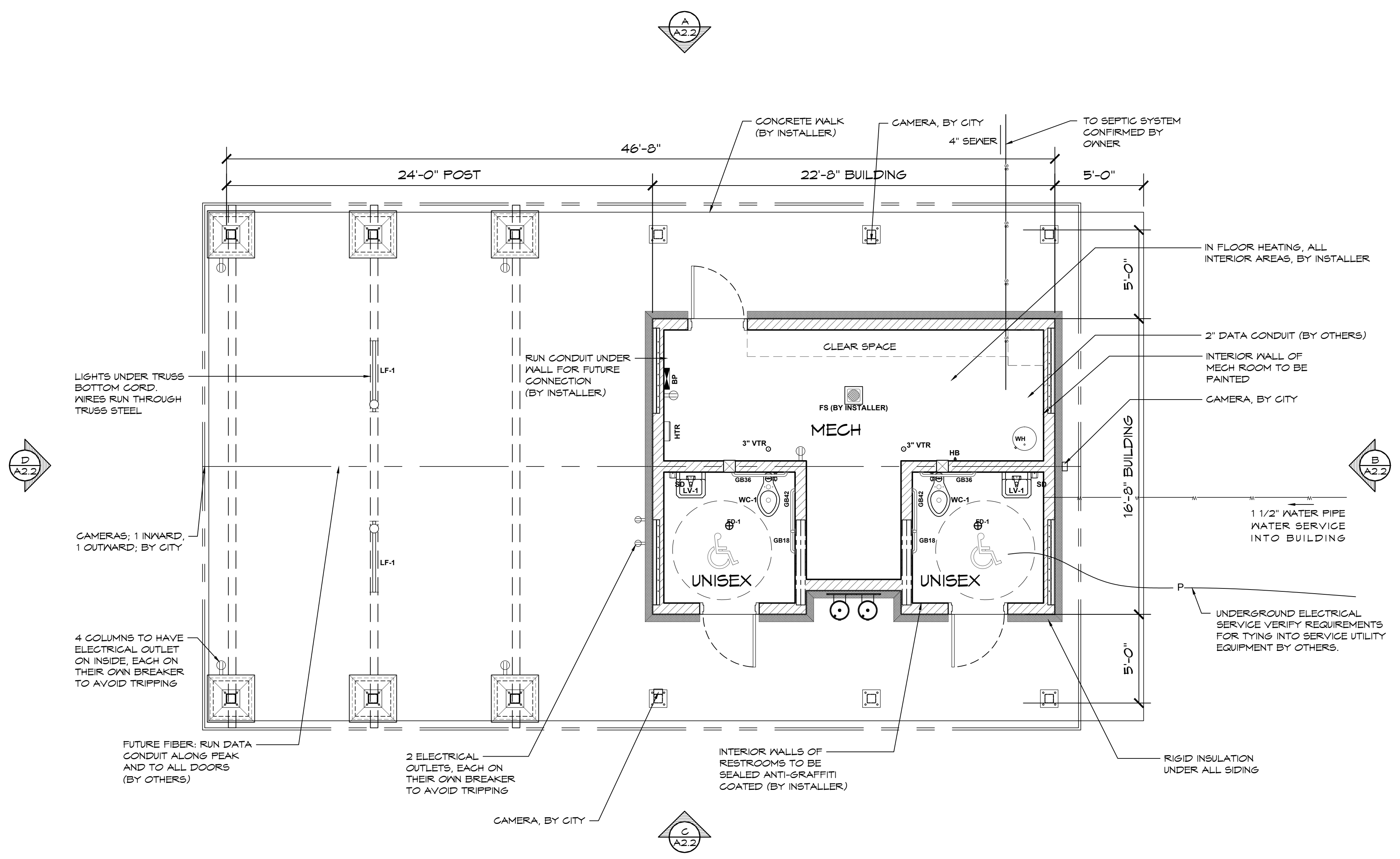
| LEGEND |                         |                   |
|--------|-------------------------|-------------------|
| SYMBOL | DESCRIPTION             | AREA/<br>QUANTITY |
|        | EXTERIOR WALL LIGHTS    | 5                 |
|        | EXTERIOR CEILING LIGHTS | 2                 |
|        | INTERIOR CEILING LIGHTS | 5                 |

| WALL TYPE SCHEDULE  |   |
|---|---|
|  | 8" REINFORCED CONCRETE MASONRY BLOCK WALL WITH MORTAR JOINTS, GROUTED SOLID ALL CELLS RUNNING BOND PATTERN. |

**PRELIMINARY**

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

**ROMTEC**  
www.romtec.com  
(541) 406-2541 FAX (541) 406-0823



**1 FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

| ABBREVIATIONS |                       |
|---------------|-----------------------|
| BP            | BREAKER PANEL         |
| CMU           | CONCRETE MASONRY UNIT |
| FD            | FLOOR DRAIN           |
| FF            | FINISHED FLOOR        |
| FG            | FINISHED GRADE        |
| FS            | FLOOR SINK            |
| GB            | GRAB BAR              |
| HB            | HOSE BIBB             |
| HTR           | HEATER                |
| LAV           | LAVATORY              |
| SD            | SOAP DISPENSER        |
| TYP           | TYPICAL               |
| VTR           | VENT THROUGH ROOF     |
| WH            | WATER HEATER          |
| WC            | WATER CLOSET          |

- frame, 16-gauge galvanized A-60 steel.
- (3) Doors and frames shall be powder coated black.
  - (4) Masonry door clips (3/16" dia.) for door frame shall be fitted between the doorframe and concrete blocks to bond frame to wall. Door clips shall allow full internal grouting of the frame during installation.
  - (5) Hinges shall meet ANSI A5112 with non-removable pin and two ball bearings.
  - (6) Door shall have 0.038" gauge, stainless steel protection plates.
  - (7) Door lock shall be Grade 2, standard duty commercial cylindrical lever locks with no exposed mounting screws.
    - (a) Hager 341C latch protection plate with lock cut out.
  - (8) Restroom doors shall have interconnected locks with occupancy indicator.
  - (9) Restroom doors to have 18" x 18" louvered vents.
  - (10) Restroom doors to have magnetic locking system.
    - (a) Magnet locks, Hager 2942
    - (b) Hager 2903, with constant power for fail safe and fail secure locking devices.
    - (c) Exit switch, Hager 2977
    - (d) PIR egress sensor, Hager 2-679-0612
    - (e) Intermatic digital in-wall timer, ST01 Series.

**2.6. ROOFING**

- A. The following roof components shall be supplied by building supplier.
  - (1) Glulam beam shall be 24F-V4 and architectural grade.
  - (2) Tongue & groove decking shall be 2x6 V-edge deck boards, select deck Douglas fir.
- B. Steel truss and post, 24' roof extension.
  - (1) All exposed steel to be powder coated black.
- C. Roofing shall be Fabral, 26-gauge, Horizon 16, standing seam panels, with 16 in. coverage width.
  - (1) Roofing package shall include inside and outside foam closures, matching trim (eaves, gables, and ridge) and fasteners, sheet metal flashing (all sides), and 30# felt (under metal).
  - (2) Roofing color to be selected by the owner from the manufacturers' standard color chart.

**2.7. DELIVERY, STORAGE, AND HANDLING**

- A. The building supplier freight shall be based on delivering the product on a 48' to 53' flatbed or van truck and trailers, or as close to those dimensions as can legally access the site. Overall dimensions of the truck and trailers allowed to access the site are: 70' overall length, 102" wide and 168" high.
- B. Building supplier shall deliver organized building package components in stages as shrink-wrapped pallets that correspond to a typical sequence of construction. A bill of material stating the stages of palletized components shall be included with every delivery.
  - (1) Stage 1 pallets shall include structural components such as block, frames, vents, beams, connectors, trusses, etc.
  - (2) Stage 2 pallets shall include second stage structural components such as filler wall material, windows, skylights, roofing, etc.
  - (3) Stage 3 pallets shall include structural finish components such as siding material, tile, doors etc.
  - (4) Stage 4 pallets shall include plumbing and electrical fixtures and other finish materials such as toilets, sinks, drinking fountains, electrical fixtures, accessories, etc.

PROJECT: RITTER FARM PARK  
CITY OF LAKEVILLE, MINNESOTA

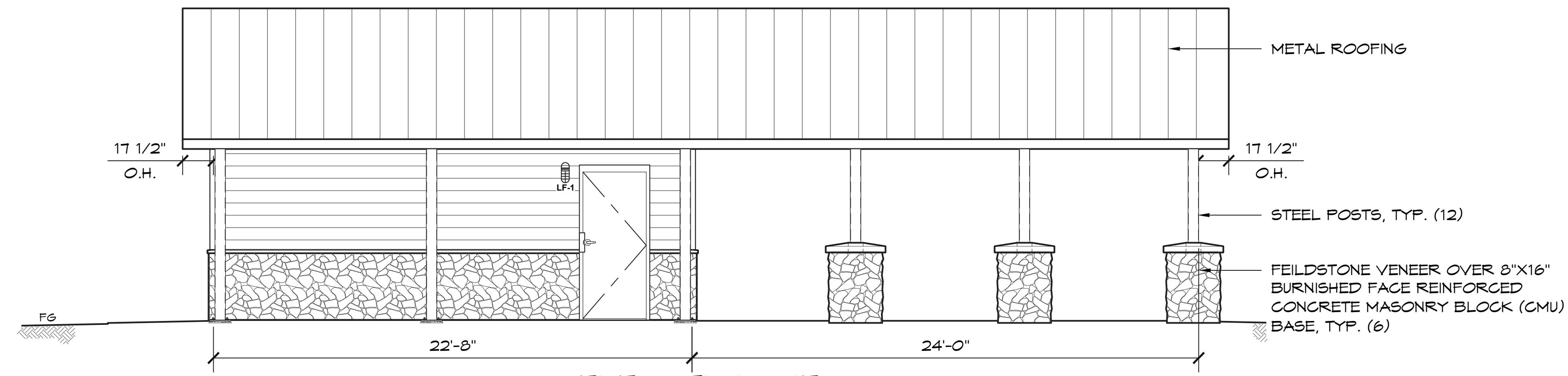
PROJECT #: 2020  
DATE: 2/10/26  
DRAWN BY: JMN/JS

SHEET TITLE: FLOOR PLAN & SPECIFICATIONS

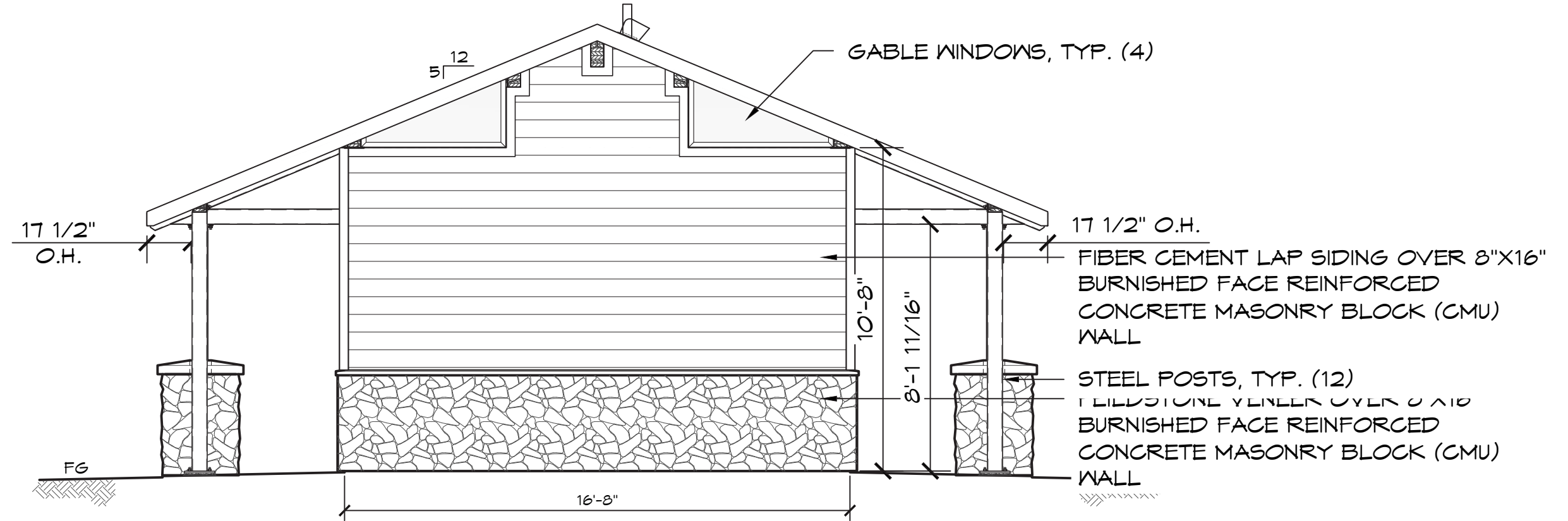
REVISIONS:

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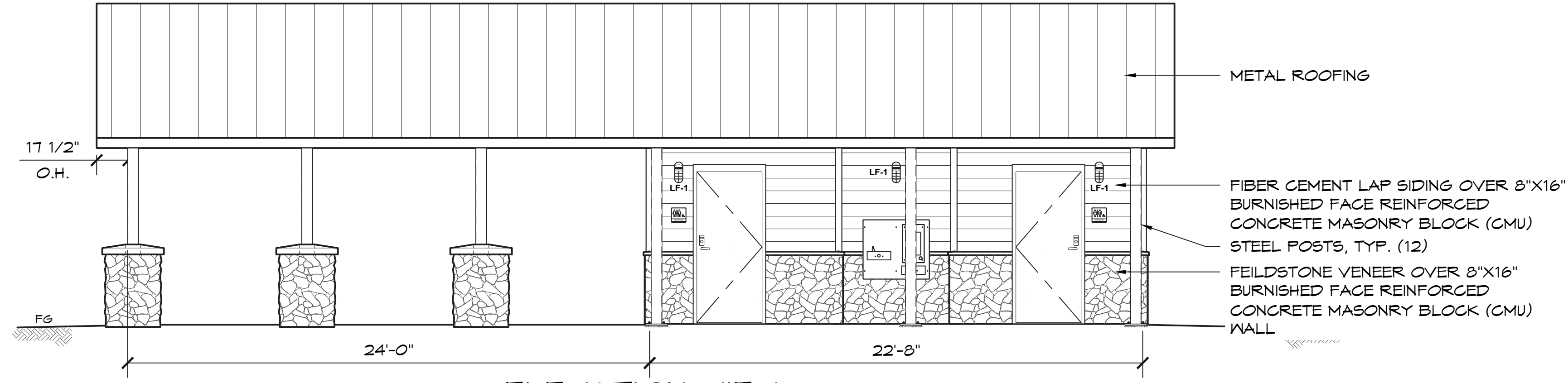
SHEET NO: **A2.1**



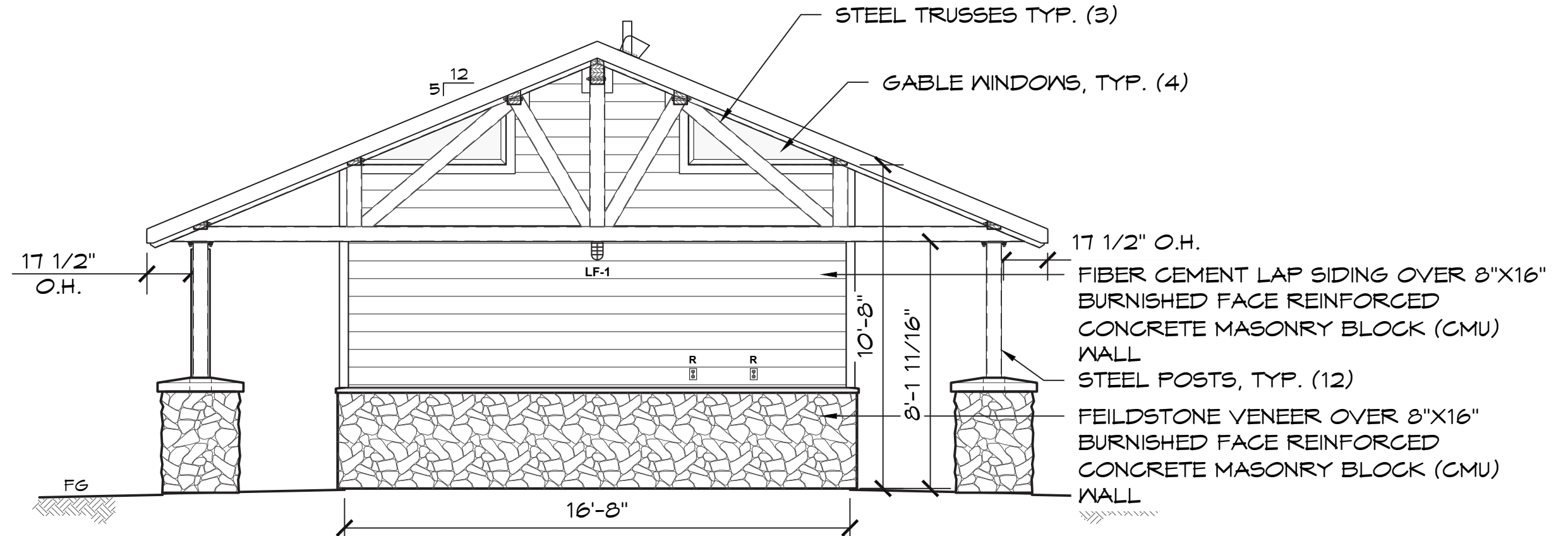
**A** ELEVATION VIEW  
SCALE: 3/16" = 1'-0"



**B** ELEVATION VIEW  
SCALE: 3/16" = 1'-0"



**C** ELEVATION VIEW  
SCALE: 3/16" = 1'-0"



**D** ELEVATION VIEW  
SCALE: 3/16" = 1'-0"

**SECTION 3: BUILDING INSTALLER SCOPE**

The installing contractor or subcontractor, hereafter designated as the building installer, is responsible for building package installation. Building installer work will generally include foundation/pad construction and building package assembly/construction.

*Note: Building supplier's scope is separate from the building installer's scope. Romtec, Inc., is the approved building supplier, not a designated building installer.*

**3.1. CONSTRUCTION SUBMITTALS**

- A.** If required by owner and/or reviewing authority, building installer shall submit product data sheets and relevant information about the specified building installer supplied products below for review and approval.

**3.2. WARRANTY**

- A.** Building installer's work shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from the date of acceptance. Acceptance is the date that installation work for the building package is completed, including any relevant final punch list. In the event that final acceptance of the completed building is delayed for reasons beyond building installer's control, the warranty shall be one (1) year from the completion of building installer's installation work and demobilization.
- B.** Building installer shall pass through to owner all relevant manufacturers warranties for individual products and components supplied by building installer.

**3.3. STRUCTURE**

- A.** Masonry (concrete) grout shall be supplied and installed by building installer.
  - (1) Grout shall have a minimum compressive strength of 2,500 psi at 28 days, 9+/-1" slump, with max 1/2" aggregate.
  - (2) Fine or coarse grout may be used in accordance with 2009 UBC.
  - (3) All CMU block must be fully grouted and may not be wetted.

Note: If required for installation, building installer will be responsible for providing appropriate equipment and labor for notching CMU block for bond beams, cutting CMU block to make any required shapes, and/or grinding CMU block for fixture mounting.

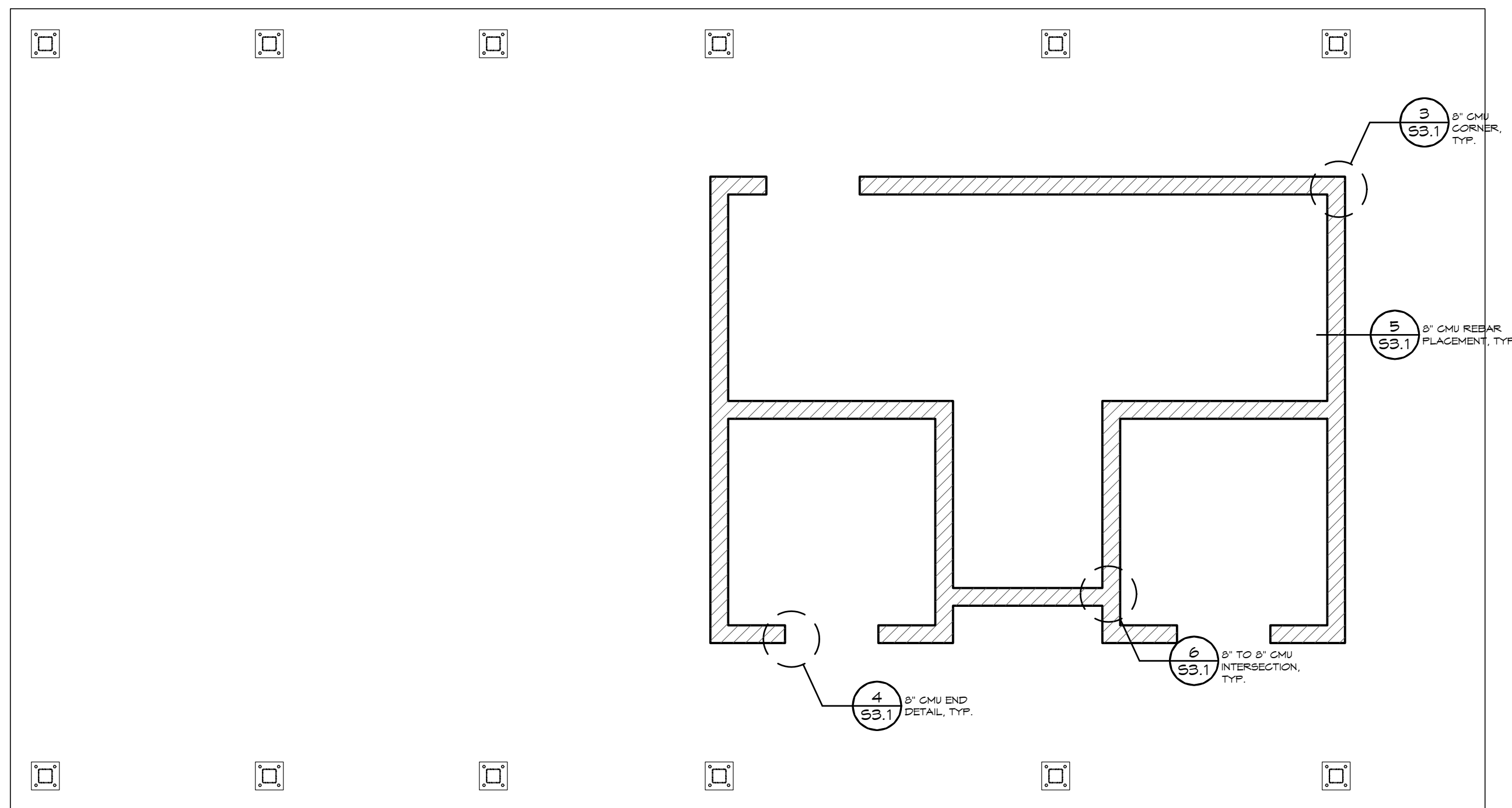
- B.** Rebar for walls shall be supplied and installed by building installer.
  - (1) All walls shall have # 4 and # 5 rebar. See final approved plans for spacing.
  - (2) All rebar used in the building must meet ASTM A615 manufacturing standards and is to be placed per the final approved plans.
- C.** Interior block wall finish shall be sealed burnished block with anti-graffiti coating supplied and installed by building installer.
- D.** Interior concrete floors to have epoxy finish supplied by building installer.
- E.** Sealant for all exposed wood shall be supplied and installed by building installer.
- F.** Sealant for all exterior CMU block is required, to be supplied and installed by building installer.
- G.** Fiber cement siding is primed to be painted on-site by building installer.
  - (1) Siding shall be mounted over OSB sheathing (sheathing supplied by building supplier).

**3.4. ELECTRICAL**

- A.** Electrical rough-in, installation and trim shall be provided by building installer.
  - (1) All underground and/or overhead service to building shall be as specified in the final site plan.
  - (2) Building installer is responsible for all necessary wire, connectors, grounding, conduit, and related items to install the building package electrical components and meet all relevant national, state, and local codes.
  - (3) Building installer shall supply and install all switches and outlets required to complete the building package installation.

**3.5. CAST IN-PLACE CONCRETE FOR BUILDING PACKAGE**

- A.** All equipment, labor, trades, and materials for cast-in-place concrete shall be provided by building installer.
  - (1) Includes all materials and labor for building package foundations/footings and interior slabs.
- B.** Footings for the building package are to be dug by the building installer and poured on-site to meet local code for permanent structures. A prefabricated, modular mat placed on compacted base is not an accepted equal to a site specific, site poured, engineered foundation.
- C.** Engineered fill shall be 3/4" minus crushed aggregate around footings, foundations, and slabs, or as required in the final approved plans.
- D.** Slab vapor barrier shall be 6-mil continuous plastic under the concrete slab, or as required in the final approved plans.
- E.** The foundation shall be installed as designed with all cast in-place concrete poured to dimensions specified, or as required in the final plans.
  - (1) Footings will be built to minimum 24" depth or greater if required by local frost depth or permitting authority.
  - (2) Minimum compressive strength of foundation concrete shall be 3,000 psi at 28 days, 4" +/-1" slump, with max 3/4" aggregate, cured in accordance with ACI 308, or as required in approved final plans.
  - (3) Slabs shall have a fine broom finish with joints required in flat work as shown on plans.
  - (4) Steel rebar shall be installed as specified in final plans.



**A STRUCTURAL CMU PLAN**  
SCALE: 1/4" = 1'-0"

**F. Building installer shall supply and install concrete slab sealer.**  
(1) Concrete slab sealer shall be a water-based, transparent curing, sealing and dust proofing compound with two (2) coats to be applied per manufacturer's instructions.

**3.6. PLUMBING**  
**A.** Plumbing rough-in, installation and trim within 10' of the building footprint shall be provided by building installer.  
(1) All underground water service and sewer drain(s) from building to be as specified in final approved site plan.  
(2) Building water shutoff valve, drain, and all rough piping shall be as shown on final building plans. Final installation location to be determined onsite.  
(3) Install the building package plumbing fixtures per the final approved plans.  
(4) Piping shall be installed per the final approved plans with minimum pipe sizing per 2009 Uniform Plumbing Code Section 610.  
**B.** Floor drains in the building shall be supplied and installed by building installer.  
(1) All floor drains shall be as shown on final approved plans.

**3.7. OTHER MATERIALS & EQUIPMENT**  
**A.** Unless otherwise specified, the following products and materials are supplied by building installer (if applicable).  
(1) Building package installation  
(2) Cast-in-place concrete foundations, footings, interior slabs.  
(3) Concrete slab & block sealer  
(4) Mortar  
(5) Concrete grout  
(6) Rebar  
(7) Latex epoxy paint  
(8) Caulk for siding  
(9) Plumbing rough in, installation and trim  
(10) Electrical rough in, installation and trim  
(11) Switches & outlets  
(12) Typical fasteners; for example: roofing nails, staples, etc.  
(13) Fasteners not included in product packaging.  
(14) Wood sealant for all decking, glulam beams, posts, and extensions  
(15) All other items within the building footprint indicated on final plans or required by building codes to complete installation of the building package which are not specifically stated as supplied by building supplier.

**3.8. DELIVERY, STORAGE, AND HANDLING**  
**A.** The building installer will be responsible for all equipment and labor required for off-loading of the delivered building package onsite.  
**B.** The building installer will assume responsibility for adequate protection and maintenance of delivered building package materials from weather, damage, and pilferage during installation work. Any failure to adequately protect building package materials that affects the warranty of those materials will be at building installer's expense.  
**C.** Building installer shall collect and maintain for final delivery to owner any operation & maintenance manuals included by individual product manufacturers with their respective product packaging. Any failure to collect,

maintain, and/or deliver these O&M manuals to the owner that results in fees from building supplier for additional copies shall be at building installer's expense.

**SECTION 4: CONTRACTOR SCOPE ITEMS**  
The items in this section may be provided by the same building installer as defined in Section 3 above (typically when a single entity is acting as both the building installer and contractor), or the items in this section may be provided by a separate entity such as a general contractor or site contractor, hereafter designated as contractor (typically when the building installer is a separate subcontractor). Contractor work will generally include site preparation and grading, excavations for structures, backfill and/or structural backfill, and any site or utility work outside the building package footprint.

Items in this section are generally to be completed prior to building installer beginning its installation work described in Section 3 above.

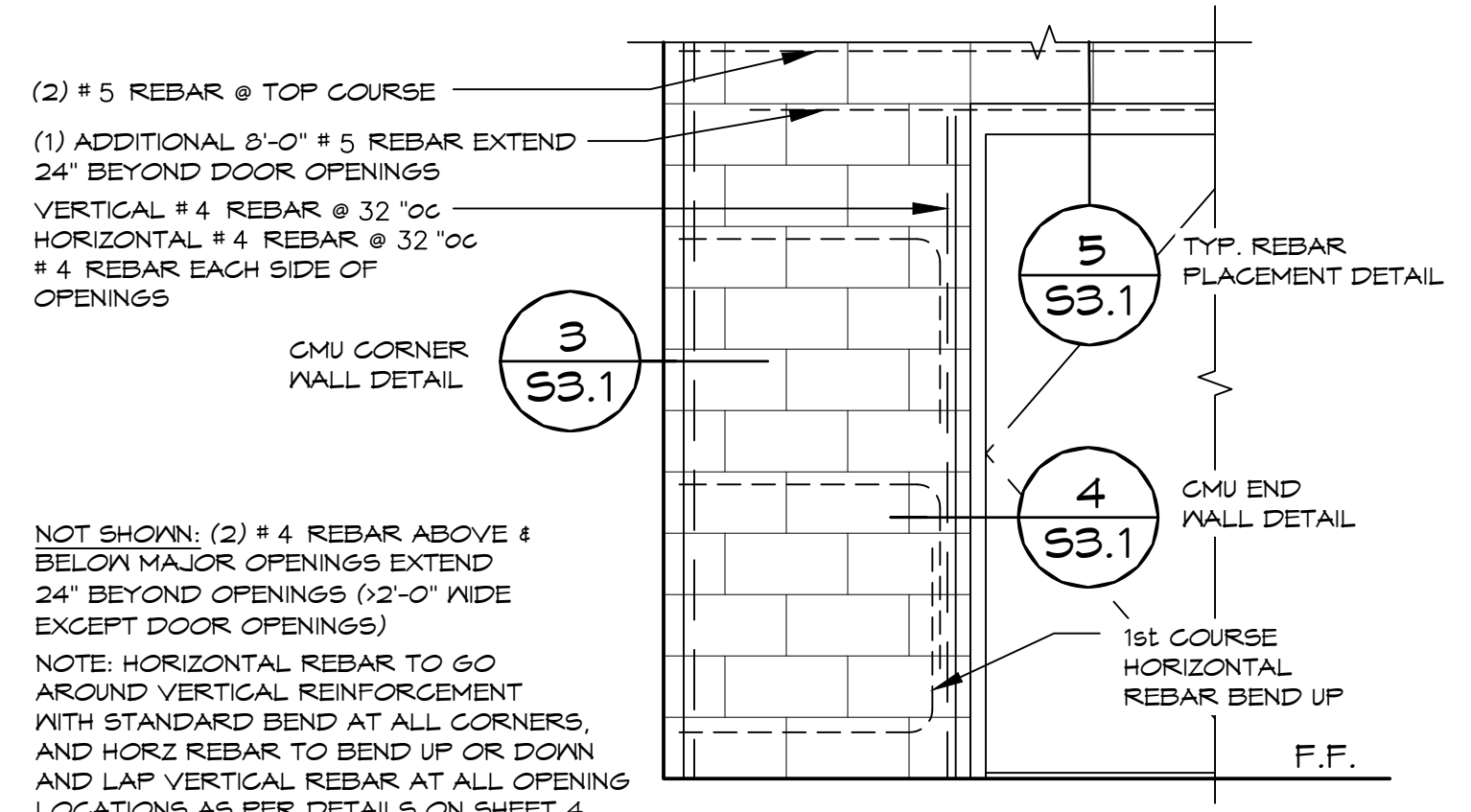
**4.1. CONSTRUCTION SUBMITTALS**  
**A.** If required by owner and/or reviewing authority, contractor shall submit product data sheets and relevant information about the specified contractor supplied products below for review and approval.

**4.2. WARRANTY**  
**A.** Contractor's work shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from the date of acceptance. Acceptance is the date that installation work for the building package is completed, including any relevant final punch list. In the event that final acceptance of the completed building is delayed for reasons beyond contractor's control, the warranty shall be one (1) year from the completion of contractor's installation work and demobilization.  
**B.** Contractor shall pass through to owner all relevant manufacturers' warranties for individual products and components supplied by contractor.

**4.3. ELECTRICAL**  
**A.** Incoming electrical utility lines to within approximately 10' of the building shall be provided by contractor.  
(1) All underground and/or overhead service to building shall be as specified in the final site plan.  
(2) Electric meter base and all rough wiring, switches, plugs and circuit breakers shall be as shown on final plans.  
**B.** Contractor supplies and installs the meter base and meter.

**4.4. CAST IN-PLACE CONCRETE FOR BUILDING EXTERIOR**  
**A.** All equipment, labor, trades, and materials shall be supplied by contractor.  
(1) Includes all materials and labor for exterior/entry slabs and sidewalks.  
**B.** Refer to drawings for sidewalks and entry slabs.  
(1) Minimum concrete compressive strength of 2,500 psi at 28 days, or as required in final approved plans.  
(2) Remesh or rebar reinforcement shall be used in sidewalks.  
(3) All sidewalks shall be finished with a fine broom with control joints installed per the final approved site plan.

**4.5. PLUMBING**  
**A.** Incoming plumbing to within approximately 10' of the building shall be provided by contractor.  
(1) All underground water service and sewer drain(s) from building to be as specified in final approved site plan.  
(2) Building water shutoff valve is to be supplied and installed by contractor.

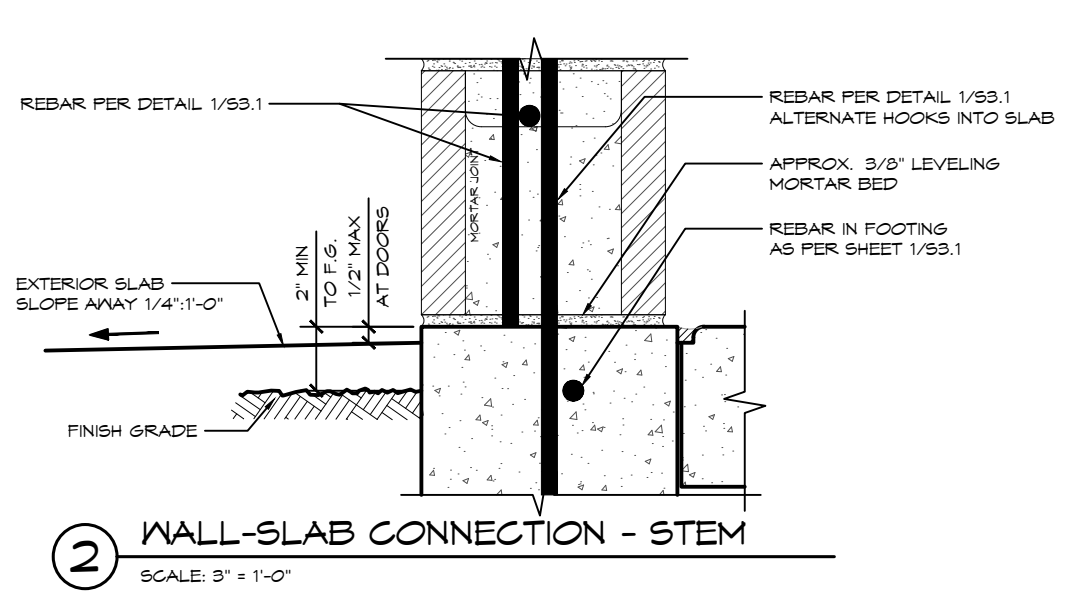
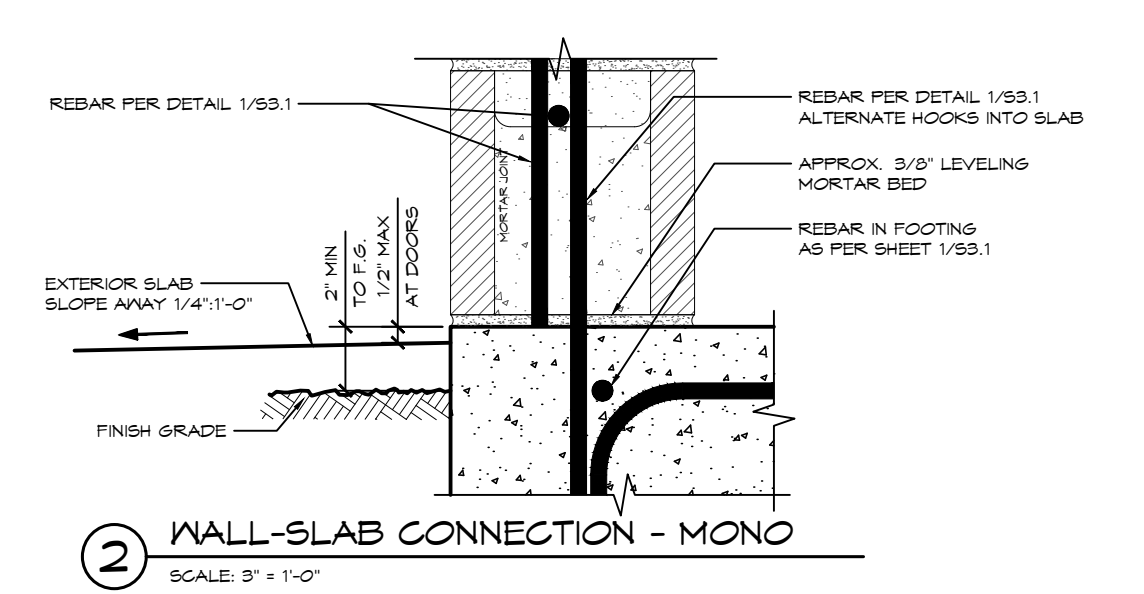


| REBAR | MIN. LAP | BEND DIAMETER |
|-------|----------|---------------|
| #4    | 24"      | 3" MIN.       |
| #5    | 30"      | 3-3/4" MIN.   |

**CMU REBAR NOTES:**  
- BENDS: MIN. INSIDE BEND DIAMETER SHALL BE NOT LESS THAN 6d AS PER TMS 402-16 SECTION 6.1.6.2  
- SPLICES: LAP SPLICES ARE PERMITTED AS PER TMS 402-16 SECTION 6.1.6.1.1

**PIPES INSTALLED THROUGH CMU WALL NOTES:**  
- SUPPLY: THE FIXTURE SUPPLY LINE SHOULD BE BORED A 1/2" LARGER THAN REQUIRED LINE SIZE AND THE PORTION OF PIPE LOCATED IN CMU WALL SHALL BE WRAPPED WITH 10MIL BLACK TAPE  
- WASTE PIPE: THE FIXTURE WASTE LINE SHOULD BE BORED A 1/2" LARGER THAN REQUIRED LINE SIZE.

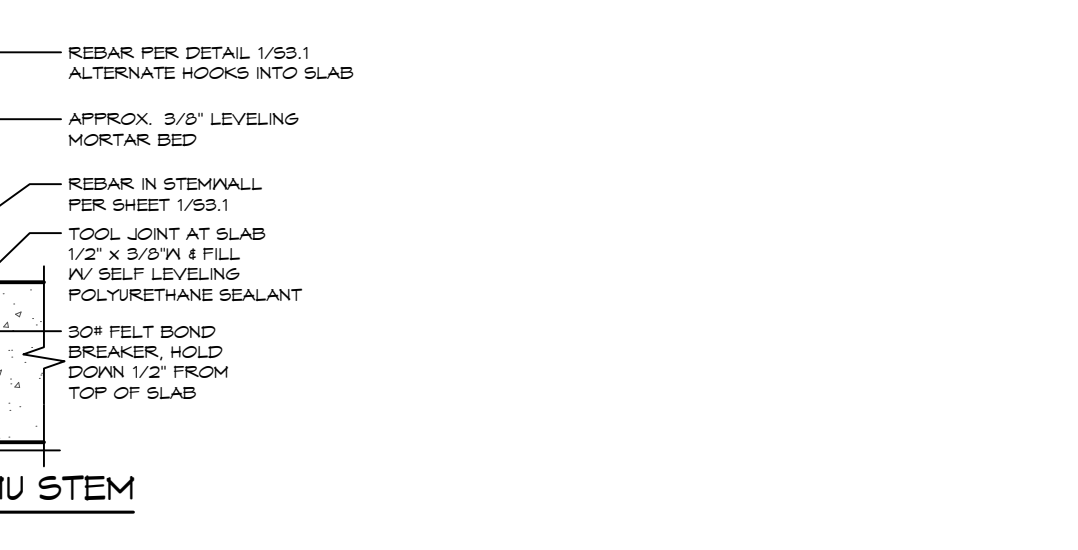
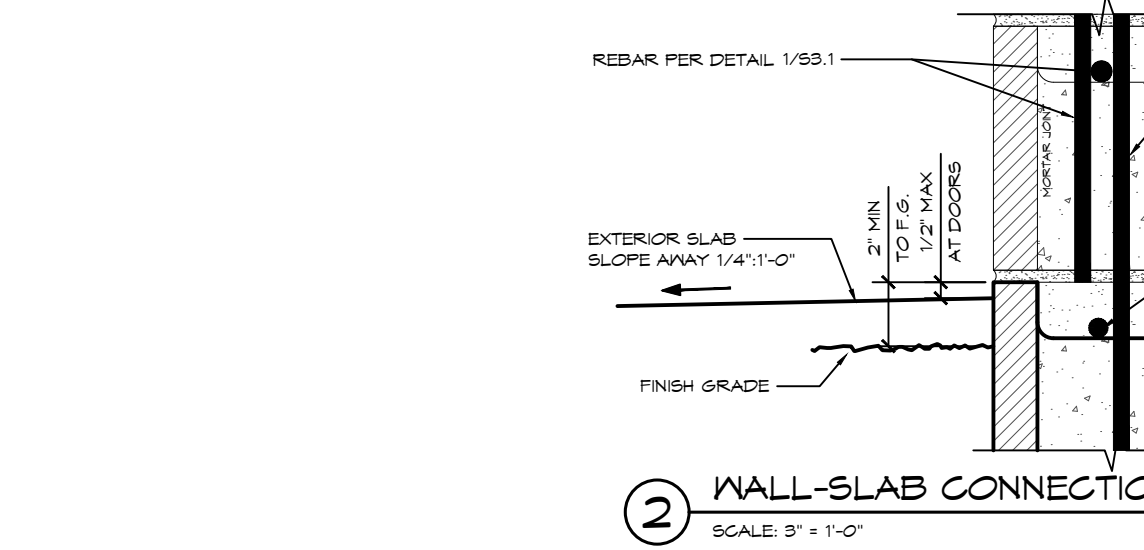
**1 CMU REBAR LAYOUT DETAIL**  
SCALE: 1" = 1'-0"



**2 WALL-SLAB CONNECTION - MONO**  
SCALE: 3" = 1'-0"

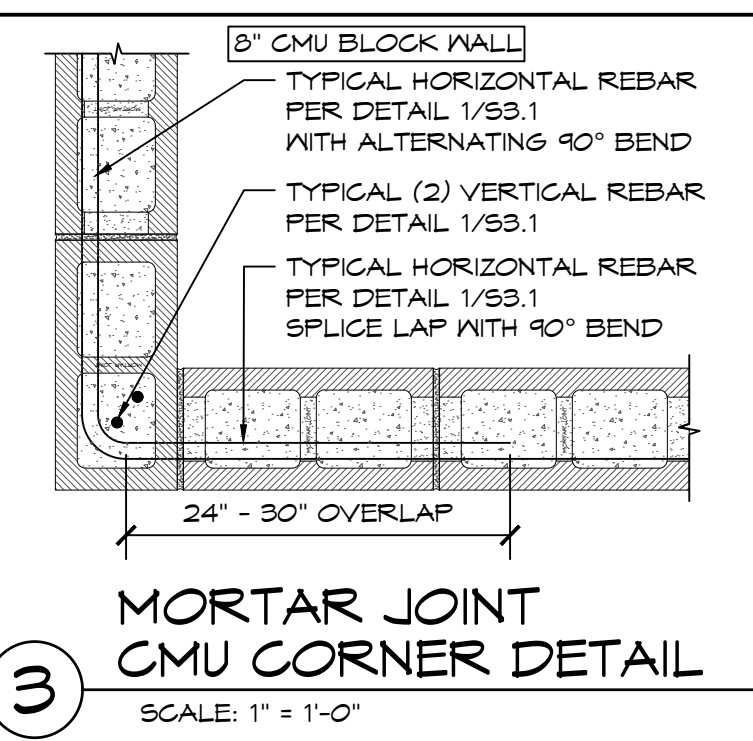
**2 WALL-SLAB CONNECTION - STEM**  
SCALE: 3" = 1'-0"

**EXTERIOR WALL CONNECTIONS DETERMINED - PER DETAIL 1/54.1**

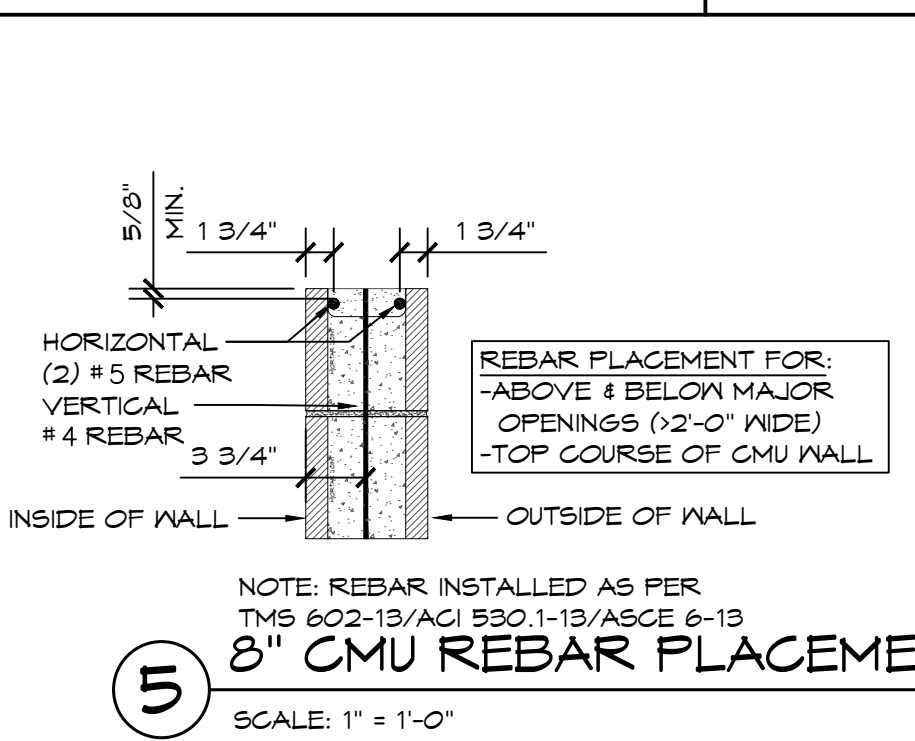


**2 WALL-SLAB CONNECTION - CMU STEM**  
SCALE: 3" = 1'-0"

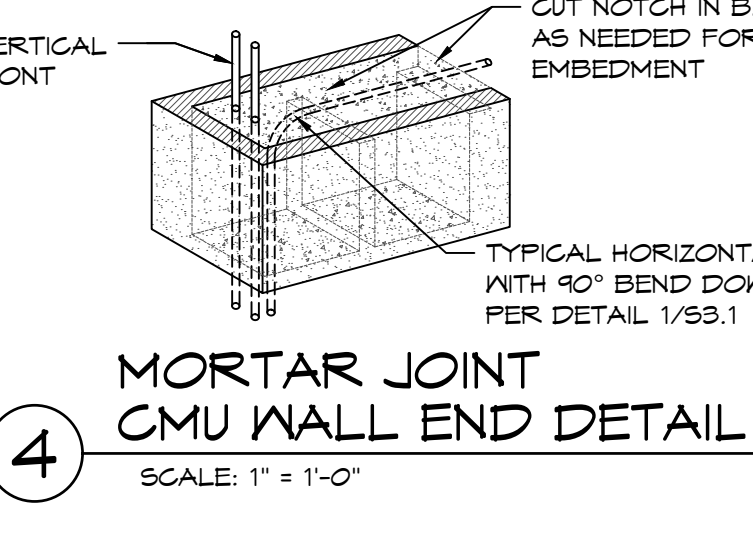
**2 WALL-SLAB CONNECTION - CMU STEM**  
SCALE: 3" = 1'-0"



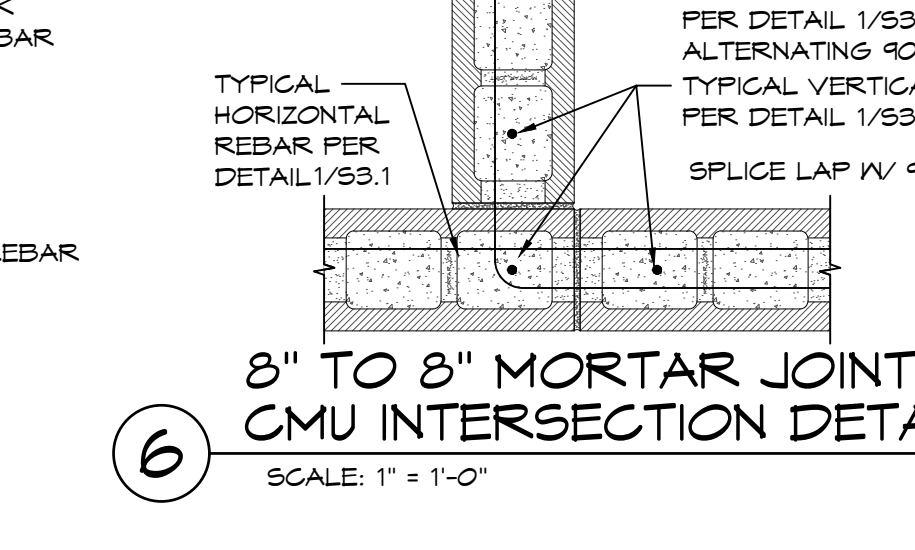
**3 MORTAR JOINT CMU CORNER DETAIL**  
SCALE: 1" = 1'-0"



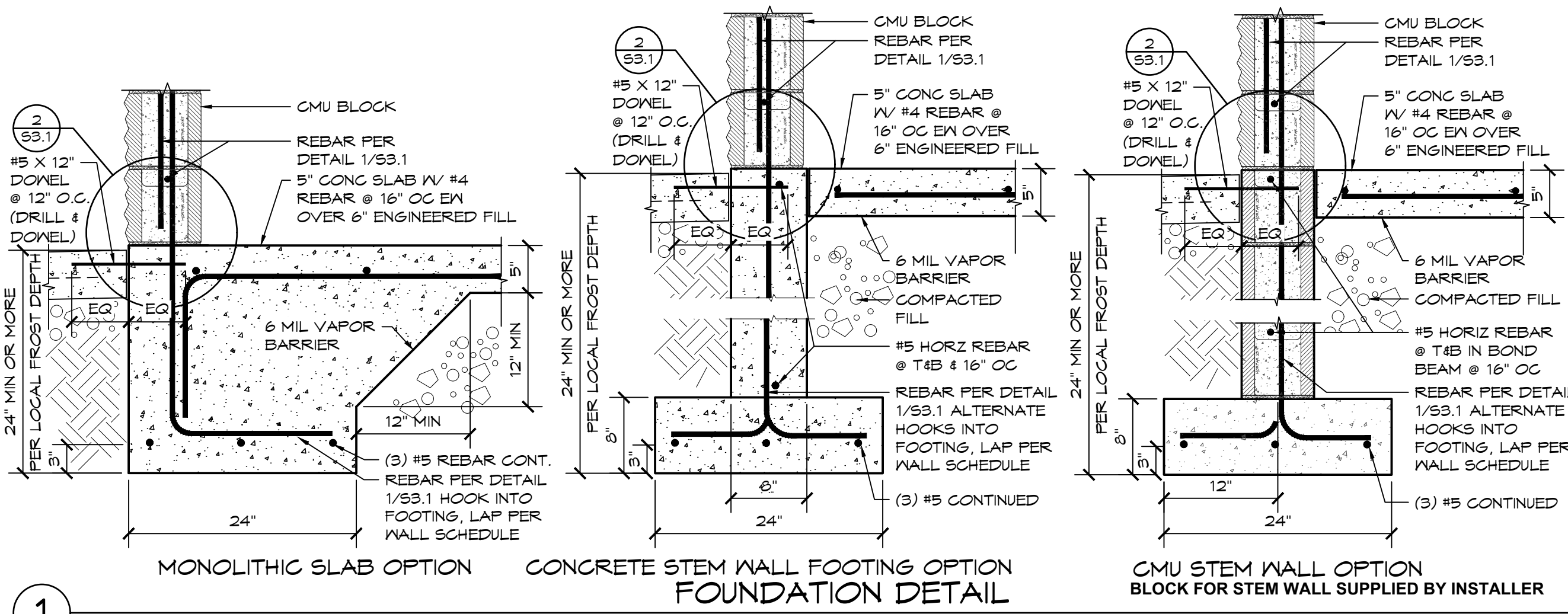
**5 8\"/>**



**4 MORTAR JOINT CMU WALL END DETAIL**  
SCALE: 1" = 1'-0"

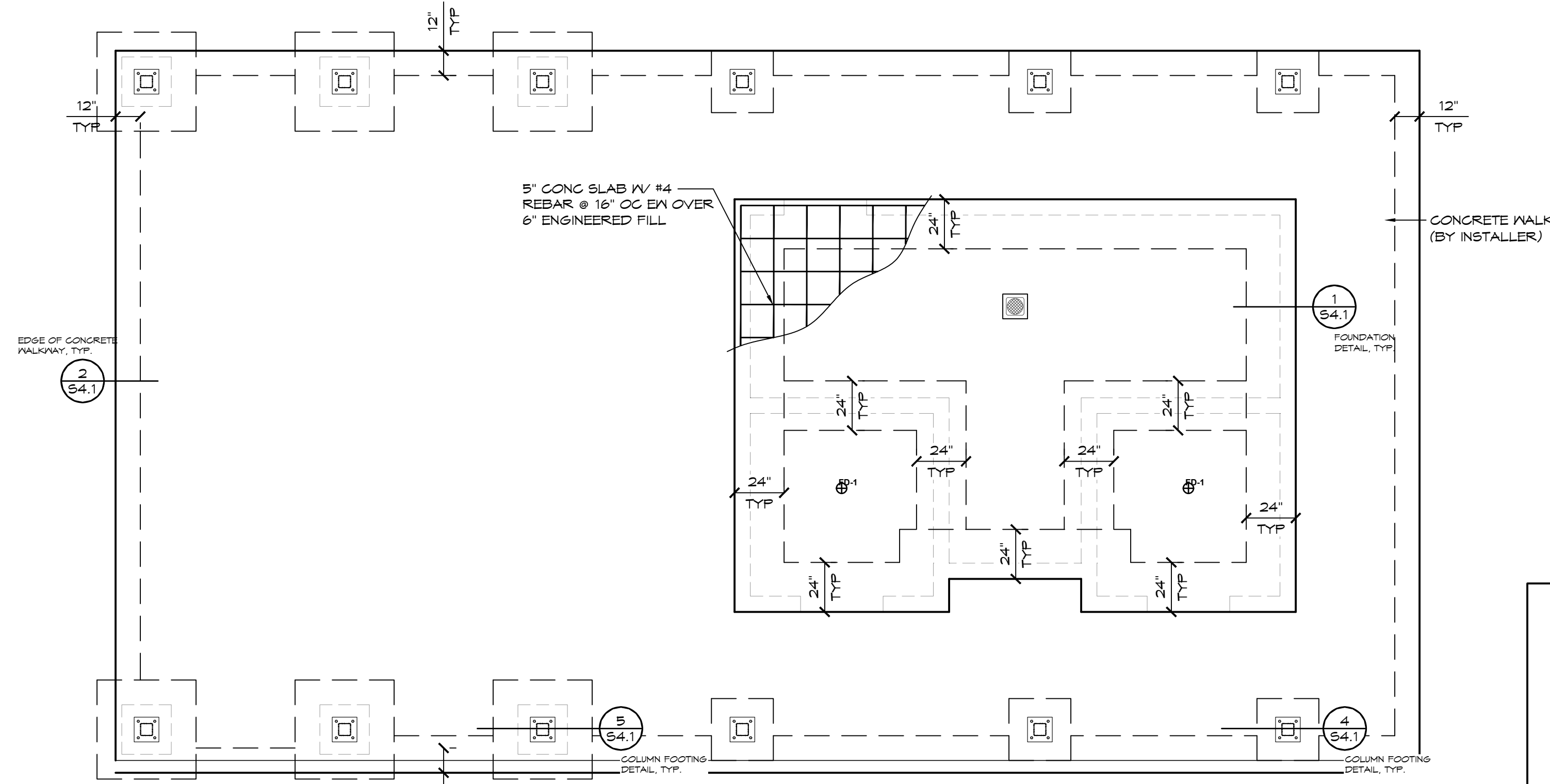


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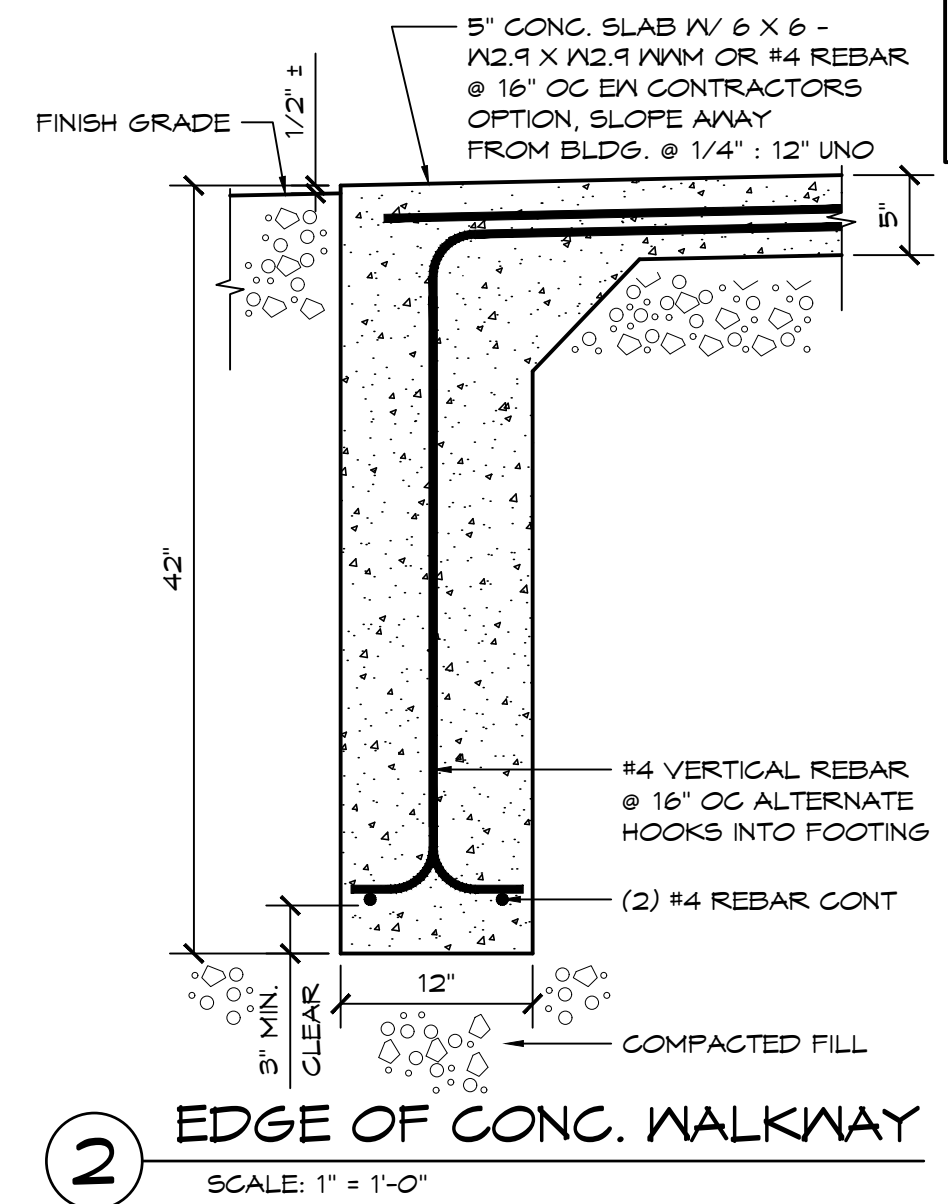


FOUNDATION DESIGN SHOWN HERE IS PRELIMINARY AND SUBJECT TO CHANGE. FINAL FOUNDATION DESIGN TO BE DETERMINED DURING THE FORTHCOMING FULL DESIGN PHASE FOR THE BUILDING. ANY INCREASED COSTS OR TIME NEEDED TO CONSTRUCT THE FINAL FOUNDATION DESIGN IS BETWEEN THE END OWNER AND THE BUILDING INSTALLER.

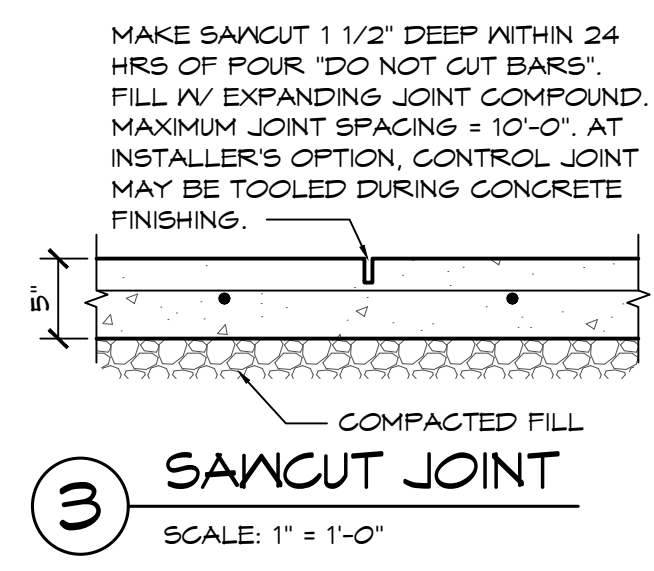
**GENERAL NOTES:**  
 \* WHEN USING EITHER STEM WALL OPTION RECESS STEM WALL THE THICKNESS OF SLAB AT DOOR THRESHOLD  
 \* PRIVACY WALLS TO HAVE A 30" WIDE X 12" DEEP FOOTING, IF APPLICABLE  
 \* CMU STEM WALL OPTION, CMU BLOCK IS BY INSTALLER  
 \* VERTICAL REBAR IN SLAB/STEM WALL TO MATCH VERTICAL WALL REINFORCEMENT LAP PER WALL SCHEDULE



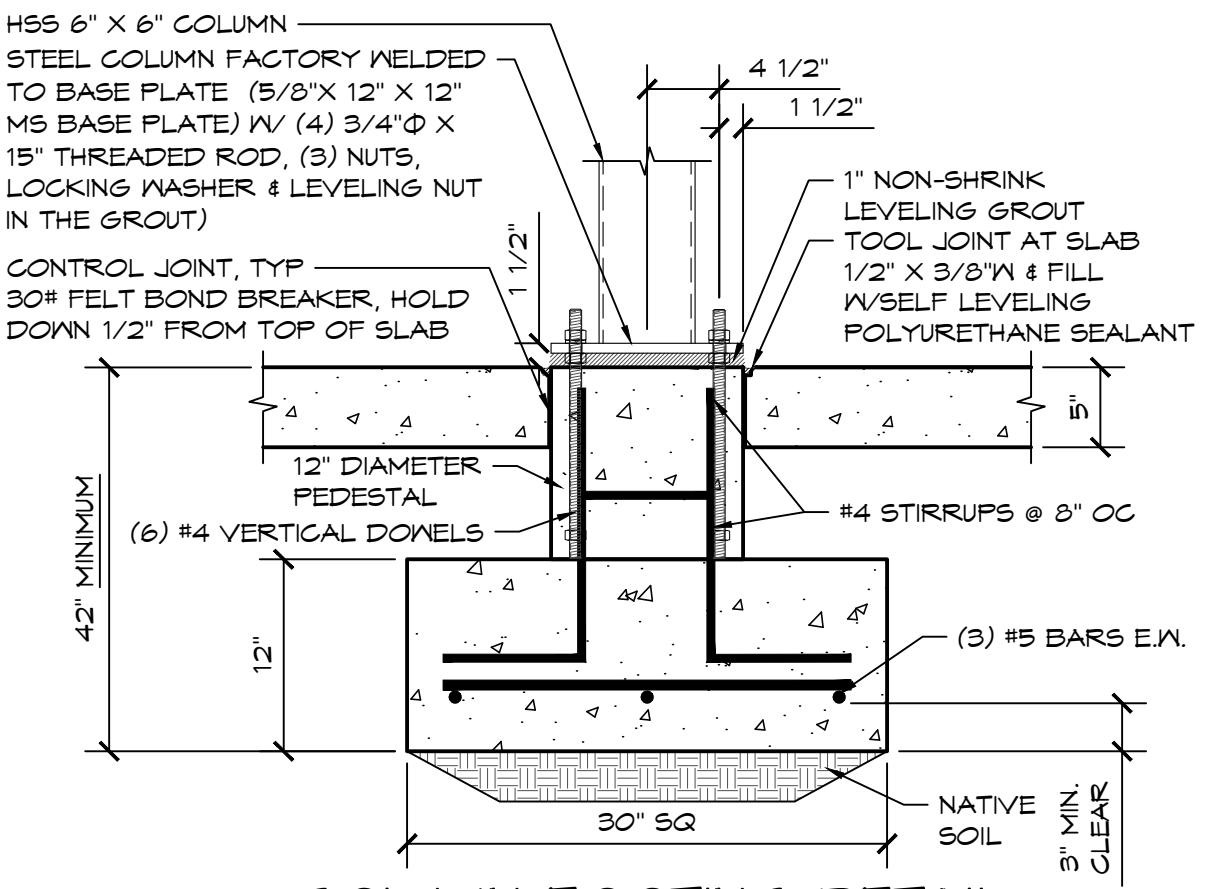
**A FOUNDATION PLAN**  
 SCALE: 1/4" = 1'-0"



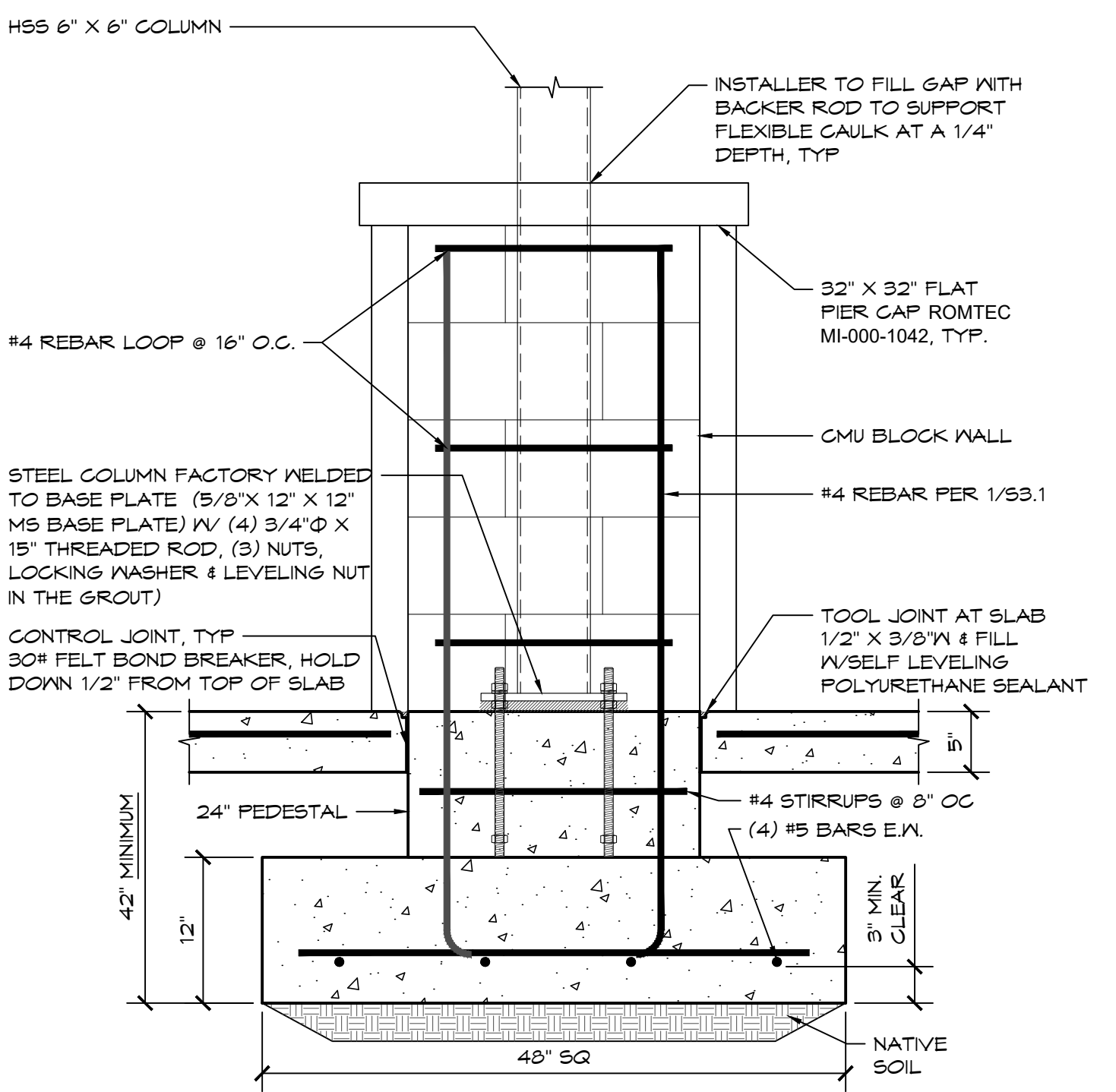
**2 EDGE OF CONG. WALKWAY**  
 SCALE: 1" = 1'-0"



**3 SAWCUT JOINT**  
 SCALE: 1" = 1'-0"



**4 COLUMN FOOTING DETAIL**  
 SCALE: 1" = 1'-0"



**5 COLUMN FOOTING DETAIL**  
 SCALE: 1" = 1'-0"

- (3) Contractor is responsible to ensure that incoming water pressure is sufficient to meet building package fixture demands.
- (4) Minimum water pressure at toilet and urinal flush valves shall be 40 psi with minimum pipe sizing as per 2009 Uniform Plumbing Code Section 610, or as required in final approved plans.
- B.** Water line drain valve shall be supplied and installed by contractor.
- C.** Sewer line backflow check valve shall be supplied and installed by contractor.
- 4.6. OTHER MATERIALS & EQUIPMENT**
- A.** Unless otherwise specified, the following products and materials are supplied by contractor.
- All items not specifically listed as supplied by building supplier or building installer.
  - Any item listed as supplied by "contractor" or "others."
- B.** Unless specified in the plans or submittals, contractor supplies the following items (if applicable):
- Incoming electrical, water, sewer, and gas utilities.
  - Asphalt paving
  - Masonry pavers
  - Sidewalks
  - Landscaping
  - Site grading
  - Exterior/entry slabs
  - Drain valves and backflow check valves.
  - Branch circuit breakers
  - Irrigation Equipment
  - Fire alarm and fire suppression equipment.
  - Lighting equipment not attached to the building.
  - All other items exterior of the building footprint indicated on final plans or required by building codes which are not specifically stated as supplied by building supplier or building installer.
- 4.7. DELIVERY, STORAGE, AND HANDLING**
- A.** The contractor will assume responsibility for adequate protection and maintenance of the installed building package materials after completion of installation work by building installer. Any failure to adequately protect building package materials that affects the warranty of those materials will be at contractor's expense.

**SECTION 5: OWNER'S SCOPE**  
**5.1. ONGOING MAINTENANCE**

**A.** Owner is responsible for ongoing maintenance of the completed building after completion of work by building installer and contractor.

**5.2. SITE PLAN**

**A.** Owner (or owner's site engineer) is responsible for providing the final approved site plan to building supplier and/or building installer.

**5.3. SPECIAL INSPECTION**

**A.** If required, special inspection(s) services shall be provided by owner.

**B.** If special inspection(s) are required by the permitting authority or relevant agency(ies), then the building supplier, building installer, and/or contractor shall provide reasonable assistance to the owner to accommodate the special inspection(s).

**PRELIMINARY**

THESE PLAN VIEW AND ELEVATION DRAWINGS ARE A PRELIMINARY ARCHITECTURAL REPRESENTATION OF THE BUILDING. ALL DIMENSIONS, FEATURES AND COMPONENTS SHOWN ON THESE PRELIMINARY DRAWINGS MAY OR MAY NOT BE PART OF THE QUOTE. PLEASE REFER TO THE "SCOPE OF SUPPLY AND SERVICES" LETTER PROVIDED WITH YOUR QUOTE FOR ROMTEC'S PROPOSED SCOPE OF SUPPLY.

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PROJECT: RITTER FARM PARK  
 CITY OF LAKEVILLE, MINNESOTA

SHEET TITLE: FOUNDATION PLAN, DETAILS, & SPECIFICATIONS

PROJECT #: 2020  
 DATE: 2/10/20  
 DRAWN BY: JMV/JS  
 REV: DATE BY

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SHEET NO: 54.1