CITY OF DE PERE

PROJECT
25-04

AMERICAN BOULEVARD UTILITY EXTENSION

BID DATE:
JANUARY 22, 2026
@ 1:00 PM

Bid documents, including plans and specifications, are available for download at www.QuestCDN.com. The QuestCDN website can also be accessed through the City website at www.deperewi.gov/projects or by pressing the *Projects* icon at the bottom of any City website page. Download cost is $22 for each contract. Bidders will be charged an additional fee of $42 to submit a bid electronically. Bidding documents may be viewed on the QuestCDN website or at the Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115.

Bid Tabs must be verified by staff prior to posting and will be available for viewing on the website within 7 days following the bid opening. Award information will be pending until approved by the Common Council.

SECTION 00 01 10

TABLE OF CONTENTS

INTRODUCTORY INFORMATION

PROJECT BID DOCUMENTS

CONTRACTING REQUIREMENTS

DIVISION 1 GENERAL REQUIREMENTS

SUPPLEMENTAL SPECIAL PROVISIONS

APPENDIX

CITY OF DE PERE 2025 STANDARD SPECIFICATIONS

CONTRACTING REQUIREMENTS

SECTION 00 11 13

JANUARY 2, 2026 – JANUARY 9, 2026

CITY OF DE PERE

ADVERTISEMENT TO BID

PROJECT 25-04

AMERICAN BOULEVARD UTILITY EXTENSION

Online bids will be received and accepted for Project 25-04 American Boulevard Utility Extension via the online electronic bidding service through QuestCDN.com, until 1:00 PM, Thursday, January 22, 2026, at which time they will be publicly accepted, displayed and read aloud.

Project 25-04 for which proposals are being sought includes the following approximate quantities:

- 1,350 LF New Sanitary Sewer (8-Inch to 24-Inch) and Associated Appurtenances
- 1,350 LF New Storm Sewer (12-Inch to 24-Inch) and Associated Appurtenances
- 1,120 LF New Water Main (8-Inch to 12-Inch) and Associated Appurtenances
- 53,300 CY Unclassified Excavation
- 5,000 Tons Crushed Aggregate Base Course Placement
- 63,600 SY Restoration

Complete digital project bidding documents are available for viewing and/or downloading at www.QuestCDN.com or may be examined at the office of the Director of Public Works. Digital plan documents may be downloaded for $22 by inputting Quest project #9404099 on Quest's Project Search page. Project documents must be downloaded from QuestCDN which will add your company to the Planholder List and allow access to vBid online bidding for the submittal of your bid. Bidders will be charged an additional fee of $42 to submit a bid electronically. The QuestCDN website can also be accessed through the City website at www.deperewi.gov/projects or by pressing the *Projects* icon at the bottom of any City website page. Contact QuestCDN Customer Support at 952-233-1632 or info@questcdn.com for assistance in membership registration, downloading digital project information and vBid online bid submittal questions.

Each proposal shall be accompanied by a bid bond in an amount equal to five percent (5%) of the bid, payable to the City of De Pere, as a guarantee that if the bid is accepted, the bidder will execute a contract and furnish a contract bond as set forth in the General Conditions of the City of De Pere. In case the bidder fails to file such contract and bond, the amount of the bid bond shall be forfeited to the City of De Pere as liquidated damages.

The letting of the contract is subject to the provisions of the following Wisconsin Statutes:

Section 62.15 regarding Public Works.

Section 66.0901(3) regarding Prequalification of Contractor.

Each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works no later than 12:00 PM, Tuesday, January 20, 2026. Prospective bidders who have previously submitted such forms subsequent to January 1, 2026 will not be required to separately submit such forms for this project.

The City of De Pere reserves the right to reject any or all bids, to waive any informalities in bidding and to accept any proposal which the Common Council deems most favorable to the interest of the City of De Pere.

Dated this 2nd day of January 2026.

Board of Public Works
City of De Pere
Eric Rakers, P.E.
City Engineer

Project 25-04

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

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

None

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

2.1 Complete sets of the Bidding documents in the number and for the deposit sum, if any, stated in the Advertisement to Bid may be obtained as stated in the Advertisement for bids.

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; Owner does not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 Owner, in providing the Bidding Documents on the terms stated in the Advertisement for Bids, does so only for the purpose of obtaining Bids for the Work and does not confer a license or grant for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.1 In accordance with Section 66.0901(3), each bidder shall pre-qualify by submitting proof of responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works as stated in the Advertisement for Bids. Prospective bidders who have previously submitted such forms after January 1st of this year will not be required to separately submit such form for this project.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA AND SITE

4.1 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in the General Conditions.

4.2 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.3 Subsurface and Physical Conditions

A. The technical data includes:
   1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
   2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except underground Facilities).
   3. In preparation of the Plans and Specifications, Engineer relied upon the following reports of explorations and tests of subsurface conditions at the Site:
      a. City of De Pere – 2024 Soil Boring by ECS Midwest, LLC

B. Limited Reliance by Contractor on Technical Data Authorized: Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Contractor may not rely upon or make any claim against Owner, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
   1. the completeness of such reports and drawings for Contractor's purposes, including but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
   2. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
   3. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.4 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.5 Reference is made to Section 01 10 00: Summary of Work, for work that will be completed and for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other portions thereof related to price) for such other work.

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

A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. Obtain and carefully study (or accept consequences of not doing so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

E. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

F. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

G. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

H. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies, that bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

I. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.7 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and, procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – SITE AND OTHER AREAS

5.1 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in

the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 6 – INTERPRETATIONS AND ADDENDA

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

6.2 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner and Engineer.

ARTICLE 7 – BID SECURITY

7.1 A Bid shall be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price and in the form of a certified check or bank money order or Bid bond (on the form attached) issued by a surety meeting the requirements of the General Conditions. Submittal of a Bid Bond on a form other than the Bid Bond form included in the Bidding Documents may be cause for rejection of Bid. The fully executed bid bond must be uploaded into QuestCDN. If the bidder elects to furnish bid security other than a bid bond, the bid security must be submitted in a sealed envelope enclosed in a separate package plainly marked on the outside with the notation "BID SECURITY" along with the project number and name and addressed to the Board of Public Works of the City of De Pere, Municipal Service Center, 925 S. Sixth Street, De Pere, WI 54115 **prior to the deadline for submission of bids.**

7.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within fifteen (15) days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner per the General Conditions.

7.3 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 8 – CONTRACT TIMES

8.1 The number of days within which, or the dates by which, Milestones are to be achieved and the

Work is to be substantially completed and ready for final payment are set forth in the Bid Form and Summary of Work.

ARTICLE 9 – LIQUIDATED DAMAGES

9.1 Provisions for liquidated damages are set forth in the General Conditions.

ARTICLE 10 – SUBSTITUTE AND "OR-EQUAL" ITEMS

10.1 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Bid Form and Summary of Work.

ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

11.1 The Bidder shall submit with the Bid to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

11.2 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposed to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner subject to revocation of such acceptance after the Effective Date of the Agreement.

11.3 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 12 – PREPARATION OF BID

12.1 The Bid form is included with the Bidding documents.

12.2 All blanks on the Bid Form shall be completed by printing in ink or by typewrite and the Bid signed in

ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each alternative, and unit price item listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

12.3 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporations shall be shown below the seal.

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

12.5 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

12.6 A Bid by an individual shall show the Bidder's name and official address.

12.7 A Bid by a joint venture shall be executed by each joint venture in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.

12.8 All names shall be typed or printed in ink below the signatures.

12.9 The Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

12.10 The address and telephone number for communications regarding the Bid shall be shown.

12.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 13 – BASIS OF BID; COMPARISON OF BIDS

13.1 Unit Price

A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid Schedule.

B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accord with the General Conditions.

C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

ARTICLE 14 – SUBMITTAL OF BID

14.1 A Bid shall be submitted no later than date and time prescribed and at place indicated in Advertisement for Bids and shall be submitted electronically using the QuestCDN online bidding vBid platform. No paper bids will be accepted.

14.2 See Bid Form for a list of documents typically required to be submitted with the Bid.

ARTICLE 15 – MODIFICATION AND WITHDRAWAL OF BID

15.1 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

15.2 If within 24 hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 16 – OPENING BIDS

16.1 Bids will be opened as indicated in the Advertisement to Bid. The bid opening can be viewed live via the GoToMeeting information shown below. An abstract of the amounts of the base bids and major alternatives, if any, will be made available to bidders after opening the bids.

The bid opening can be viewed live via GoToMeeting as follows:
Please join my meeting from your computer, tablet or smartphone.

https://meet.goto.com/345634277

You can also dial in using your phone.
(For supported devices, tap a one-touch number below to join instantly.)

United States (Toll Free): 1 877 309 2073
Access Code: 345-634-277

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
https://meet.goto.com/install

ARTICLE 17 – BIDS REMAIN SUBJECT TO ACCEPTANCE

17.1 All bids will remain subject to acceptance for the period of time stated in the General Conditions, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18 – EVALUATION OF BIDS AND AWARD OF CONTRACT

18.1 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

18.2 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

18.3 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

18.4 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Supplier, and other individuals or entities proposed for those portions of the Work for which the identify of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

18.5 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

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

18.7 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible responsive Bidder whose Bid is in the best interests of the Project.

ARTICLE 19 – CONTRACT SECURITY AND INSURANCE

19.1 The General Conditions set forth Owner’s requirements as to performance and payment bonds and

insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds and a certificate of insurance.

ARTICLE 20 – SIGNING OF AGREEMENT

20.1 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within ten (10) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten (10) days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of Drawings with appropriate identification.

END OF SECTION

SECTION 00 41 13

CITY OF DE PERE

BID FORM

PROJECT 25-04

This bid, submitted by the undersigned Bidder to the City of De Pere, in accordance with the Advertisement to Bid, which will be received until 1:00 PM, Thursday, January 22, 2026, is to furnish and deliver all materials, and to perform and do all work on the project designated per Section 01 10 00 Summary of Work.

Bidder has examined and carefully prepared the bid from the plans and specifications and has checked the same in detail before submitting said proposal or bid; and that said bidder or bidder's agents, officer or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal or bid.

Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____

BASIS OF BID:

Bidder will complete the Work in accordance with the Contract documents for the following price(s):

As stated in the attached Unit Price Bid Schedule.

Unit Prices have been computed in accordance with the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

TOTAL BID PRICE: $_____

ATTACHMENTS TO THIS BID

The following documents are submitted with and made a condition of this Bid:

A.	Required Bid Security	
B.	Unit Price Bid Schedule	(Section 00 41 43)
C.	Proposed Products Form	(Section 00 43 33)
D.	Tabulation of Subcontractors	(Section 00 43 36)

BID SUBMITTAL

This Bid is submitted by _____ of _____, _____

The Bidder, being duly sworn, does dispose that they are an authorized representative of

Bidder, if Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in Wisconsin is ___/___/___.

Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____

(Signature of first joint venture partner – attach evidence of authority to sign)

Name (typed or printed):_____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By:_____

(Signature of second joint venture partner – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. Manner of signing for each individual, partnership, and corporation that is a party to joint venture should be in manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

State Contractor License No. _____(if applicable)

SECTION 00 41 43

CITY OF DE PERE

PROJECT 25-04

BID SCHEDULE – UNIT PRICE

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
SANITARY SEWER					
SS-01	Provide 24" PVC (PS115) Sanitary Sewer (Natural Backfill)	LF	680	$_____	$_____
SS-02	Provide 24" PVC (PS115) Sanitary Sewer (Granular Backfill)	LF	495	$_____	$_____
SS-03	Provide 8" PVC Sanitary Sewer (Natural Backfill)	LF	75	$_____	$_____
SS-04	Provide 8" PVC Sanitary Sewer (Granular Backfill)	LF	95	$_____	$_____
SS-05	Provide 4' Diameter Outside Drop Sanitary Sewer Manhole (2 Drops)	LF	55	$_____	$_____
SS-06	Provide 4' Diameter Outside Drop Sanitary Sewer Manhole	VF	30	$_____	$_____
SS-07	Connect to Existing Sanitary Sewer Manhole	EA	1	$_____	$_____
STORM SEWER					
ST-01	Provide 24" RCP Class IV Storm Sewer (Natural Backfill)	LF	155	$_____	$_____
ST-02	Provide 24" RCP Class IV Storm Sewer (Granular Backfill)	LF	95	$_____	$_____
ST-03	Provide 24" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	425	$_____	$_____
ST-04	Provide 24" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	75	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STORM SEWER CONTINUED					
ST-05	Provide 18" PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	50	$_____	$_____
ST-06	Provide 15" RCP Class IV Storm Sewer (Granular Backfill)	LF	50	$_____	$_____
ST-07	Provide 15" PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	10	$_____	$_____
ST-08	Provide 12” RCP Class IV Storm Sewer (Granular Backfill)	LF	50	$_____	$_____
ST-09	Provide 12” PVC, RCP Class III, or PP Storm Sewer (Natural Backfill)	LF	420	$_____	$_____
ST-10	Provide 12” PVC, RCP Class III, or PP Storm Sewer (Granular Backfill)	LF	75	$_____	$_____
ST-11	Provide 4’ Diameter Storm Manhole	VF	20	$_____	$_____
ST-12	Provide Type B Inlet	EA	6	$_____	$_____
ST-13	Connect to Existing Storm Manhole	EA	1	$_____	$_____
ST-14	Provide 24” RCP Endwall	EA	6	$_____	$_____
ST-15	Provide 18” RCP Endwall	EA	1	$_____	$_____
ST-16	Provide 12” RCP Endwall	EA	6	$_____	$_____
WATER MAIN					
W-01	Provide 12” PVC Water Main (Natural Backfill)	LF	1,060	$_____	$_____
W-02	Provide 12” PVC Water Main (Granular Backfill)	LF	50	$_____	$_____
W-03	Provide 8” PVC Water Main (Natural Backfill)	LF	20	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
WATER MAIN CONTINUED					
W-04	Provide 12" Gate Valve	EA	2	$_____	$_____
W-05	Provide 6" Gate Valve	EA	3	$_____	$_____
W-06	Provide Connection to Existing Water Main	EA	1	$_____	$_____
W-07	Provide Hydrant (7.5' Bury)	EA	1	$_____	$_____
W-08	Provide Hydrant (7.0' Bury)	EA	2	$_____	$_____
W-09	Provide 6” PVC Hydrant Lead	LF	15	$_____	$_____
W-10	Abandon/Remove Water Main and Appurtenances	LS	1	$_____	$_____
STREET AND DRAINAGE					
SD-01	Unclassified Excavation (Pond)	CY	51,800	$_____	$_____
SD-02	Unclassified Excavation (Street)	CY	1,470	$_____	$_____
SD-03	Topsoil Stripping	SY	43,600	$_____	$_____
SD-04	Backyard Swale Ditching	LF	780	$_____	$_____
SD-05	Permitted Wetland Fill	SY	1,500	$_____	$_____
SD-06	Provide 1 1/4" Crushed Aggregate Base Course	TON	5,000	$_____	$_____
SD-07	Landscape - Topsoil, Mesic Prairie Planting, Fertilizer and Mulch	SY	1,700	$_____	$_____
SD-08	Landscape - Topsoil, Mesic Prairie Planting, Fertilizer and Erosion Mat Class I Urban	SY	19,500	$_____	$_____
SD-09	Landscape – Topsoil, Seed, Fertilizer and Mulch	SY	7,400	$_____	$_____

ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT BID
STREET AND DRAINAGE CONTINUED					
SD-10	Landscape – Topsoil, Temporary Nurse Crop and Mulch	SY	35,000	$_____	$_____
SPECIAL CONSTRUCTION					
SC-01	Provide Silt Fence	LF	3,200	$_____	$_____
SC-02	Inlet Protection Type A	EA	3	$_____	$_____
SC-03	Inlet Protection Type D	EA	8	$_____	$_____
SC-04	Provide Medium Rip Rap w/ Geotextile Fabric (Type HR)	SY	1,000	$_____	$_____
SC-05	Tracking Pad	EA	1	$_____	$_____
SC-06	Adjust Manhole	EA	1	$_____	$_____
			TOTAL AMOUNT BID:		**$_____**

SECTION 00 43 13

CITY OF DE PERE

BID BOND

KNOW ALL MEN BY THESE PRESENTS: That _____,

as Principal, hereinafter called Principal, and _____,

as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of _____ dollars ($_____) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presence.

WHEREAS, Principal has made a proposal to the City for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work of Project 25-04 in accordance with drawings and specifications prepared by the Director of Public Works of said City, which proposal is by reference made a part hereof, and is hereinafter referred to as the BID.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall be awarded the contract for said project and Principal shall enter into a contract in accordance with the BID, then this obligation shall be null and void; otherwise it shall remain in full force and effect, provided that:

1. The liability of Surety shall in no event exceed the penalty of this bond.

2. Any suits at law or proceedings, in equity brought or to be brought against Surety to recover any claim hereunder shall be executed within six (6) months from the date of this instrument.

Signed and sealed this _____ day of _____, 20____.

In the presence of:

_____ _____

WITNESS PRINCIPAL (SEAL)

_____ _____

WITNESS SURETY (SEAL)

SECTION 00 43 33

PROPOSED PRODUCTS FORM

The following is a list of material, type or model numbers and manufacturers used in the preparation of this proposal and to be used on this project:

ITEM	MATERIAL	SUPPLIER
Valves	N/A	
Hydrants	N/A	
Manholes	Concrete	
Sanitary Sewer	PVC	
Water Main	PVC	
Storm Sewer (RCP) (List Proposed Size)	RCP	
Storm Sewer (PVC) (List Proposed Size)	PVC	
Storm Sewer (PP) (List Proposed Size)	PP	

SECTION 00 43 36

TABULATION OF SUBCONTRACTORS

The following information is submitted which gives the name, business address, and portion of work for each subcontractor that will be used in the work if the bidder is awarded the contract, and no subcontractor doing work in excess of one-half of one percent of the total amount of the bid and who is not listed will be used without the written approval of the Engineer. Additional numbered pages outlining this portion of the proposal may be attached to this page.

PORTION OF WORK	BUSINESS NAME	BUSINESS ADDRESS
Street and Pond Excavation		
Aggregate Base Course Placement		
Restoration/Landscaping		
Utility Work		

SECTION 00 51 00

NOTICE OF AWARD

(Contractor)
(Contractor Name)
(Address)
(Address)

Project Description: 25-04 American Boulevard Utility Extension

The City has considered the proposal submitted by you dated (BID DATE) for the above-described project in response to its Advertisement for Bids dated January 2, 2026 and January 9, 2026.

You are hereby notified that the Common Council of the City of De Pere has accepted your bid of (Contract Amount $_____.00).

You are required to execute the Contract and furnish the required Performance Bond, Payment Bond and Certificates of Insurance within ten (10) calendar days from the date of this notice to you.

If you fail to execute said Agreement and to furnish said bonds within ten (10) days from the date of this notice, said City will be entitled to consider all your rights arising out of the City's acceptance of your bid as abandoned and as a forfeiture of your Bid Bond. The City will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the City.

Dated this _____ day of _____2026.

_____
DEPARTMENT OF PUBLIC WORKS

BY: Eric P. Rakers, P.E.
City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

_____, this the _____ day of _____, 20___

By:_____

Title:_____

SECTION 00 52 13

CONTRACT

This Contract, made and entered into this day _____ (date to be affixed by City), by and between (Contractor Name), hereinafter called Contractor, and the City of De Pere, a municipal corporation of the State of Wisconsin, hereinafter called City.

WITNESSETH: That, in consideration of the covenants and agreements herein contained, to be performed by the parties hereto, and of the payments hereinafter agreed to be made, it is mutually agreed as follows:

ARTICLE I - SCOPE OF WORK

The Contractor shall furnish all materials and all equipment and labor necessary, and perform all work shown on the drawings and described in the specifications for the project entitled Project 25-04 American Boulevard Utility Extension, all in accordance with the requirements and provisions of the following documents, which are hereby made a part of this Contract:

(a) Advertisement for Bids, dated January 2, 2026 and January 9, 2026.

(b) Drawings designated for Project 25-04 American Boulevard Utility Extension dated January 2, 2026.

(c) City of De Pere 2025 Construction Specifications.

(d) Special Provisions dated January 2, 2026.

(e) Proposal submitted by (Contractor Name) dated Bid Date.

(f) Addenda No. dated

ARTICLE II - TIME OF COMPLETION

(a) The work to be performed under the Contract shall be commenced within (number spelled out) (__) calendar days after receipt of written notice to proceed. The work shall be completed within (Number spelled out) (__) calendar days) or (specific calendar dates) after receipt of Notice to Proceed.

(b) Time is of the essence with respect to the date of completion herein above stated. Failure to complete the work within the number of calendar days stated in this Article, or interim dates included in the work sequence in Section 01 10 00, Summary of Work, including any extensions granted thereto, shall entitle the City to deduct from the monies due the Contractor an amount equal to Update based on 00 70 00 - General Conditions (Page 26)($) per day for each calendar day of delay in the completion of the work. Such amount shall be considered and treated not as a penalty but as liquidated damages, which the City will sustain, by failure of the Contractor to complete the work within the time stated.

ARTICLE III - PAYMENT

(a) The Contract Sum. The City shall pay to the Contractor for the performance of the Contract the amounts determined for the total number of each of the following units of work completed at the unit price stated thereafter. The number of units contained in this schedule is approximate only, and the final payment shall be made for the actual number of units that are incorporated in or made necessary by the work covered by the Contract.

(b) Progress Payments. The City shall make payments on account of the Contract as follows:

1. On not later than the fourth Friday of every month the Contractor shall present to the City an invoice covering an estimate of the amount and proportionate value of the work done as verified by the City under each item of work that has been completed from the start of the job up to and including the fourth Friday of the preceding month, and the value of the work so completed determined in accordance with the schedule of unit prices for such items, together with such supporting evidence as may be required. This invoice shall also include an allowance for the cost of such materials and equipment required in the permanent work as have been delivered to the site but not as yet incorporated in the work.

2. On not later than the third week of the following month, the City shall, after deducting previous payments made, pay to the Contractor 95% of the amount of the approved invoice, retaining 5% of the estimate of work done until 50% of the work has been completed. At 50% completion of the work, the previous retainage shall not yet be paid, but further partial payments shall be made in full to the contractor without additional retainage being taken unless the engineer certifies that the work is not proceeding satisfactorily. If the work is not proceeding satisfactorily, additional amounts may be retained. After substantial completion, an amount retained may be paid to the contractor, keeping retained only such amount as is needed for the remaining work.

3. The Contractor shall notify the City in writing when all work under this Contract has been completed. Upon receipt of such notice the City shall, within a reasonable time, make the final inspection and issue a final certificate stating that the work provided for in this Contract has been completed and is accepted under the terms and conditions thereof, and that the entire balance due the Contractor as noted in said final certificate is due and payable. Before issuance of the final certificate the Contractor shall submit evidence satisfactory to the City that payrolls, material bills, and other indebtedness connected with the work under this Contract have been paid. The City shall make final payment as soon after issuance of the final certificate as practicable.

ARTICLE IV – CONTRACT DOCUMENTS

(a) Contents

1. The Contract documents consist of the following:
   a. This Contract (pages 00 52 13-1 to 0052-13-3, inclusive).
   b. Payment bond (pages 00 61 13-1 to 00 61 13-2, inclusive).
   c. Performance bond (page 00 61 16-1).
   d. General Conditions (pages 00 70 00-1 to 00 70 00-27, inclusive).

e. Specifications as listed in the table of contents of the Project Manual.
f. Drawings consisting of ___ sheets with each sheet bearing the following general title: ___[or] the Drawings listed on attached sheet index.
g. Addenda (numbers ___ to ___ inclusive), dated_____.
h. Exhibits to this Agreement (enumerated as follows):
   1) Contractor's Bid (pages 00 41 13-1 to 00 41 13-3, inclusive).
   2) Bid Schedule – Unit Prices (pages 00 41 43-1 to 00 41 43- , inclusive).
   3) Proposed Products Form (page 00 43 33-1).
   4) Tabulation of Subcontractors (page 00 43 36-1).
   5) Documentation submitted by Contractor prior to Notice of Award (page 00 51 00-1).
i. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
   1) Notice to Proceed (page 00 55 00-1).
   2) Change Orders.

2. The documents listed in Paragraph (a) Contents, are attached to this Agreement (except as expressly noted otherwise above).

3. There are no Contract Documents other than those listed above in this Article IV.

IN WITNESS WHEREOF, the parties hereto have executed this Contract, the day and year first written above.

_____ _____
(WITNESS) (CONTRACTOR) (SEAL)

_____ BY: _____
(WITNESS)

_____
(TITLE)

BY: _____

_____
(TITLE)

CITY OF DE PERE (SEAL)

Approved as to Form By: _____ (CITY ATTORNEY)

Sufficient funds are available to provide for the payment of this obligation.

_____
(COMPTROLLER)

BY:_____ BY:_____
(CITY MANAGER) (CITY CLERK)

SECTION 00 55 00

NOTICE TO PROCEED

Date: _____

(CONTRACTOR NAME)
(ADDRESS)
(ADDRESS)

Project Description: 25-04 American Boulevard Utility Extension

You are hereby notified to commence work in accordance with the CONTRACT dated _____, within ten (10) days of this Notice. All work under this contract shall be completed within _____(NUMBER IN WORDS) (__#) consecutive days from the start of construction or _____(DATE) whichever comes first.

_____
Department of Public Works

By: Eric P. Rakers, P.E.
Title: City Engineer

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____, this _____ day of _____, 20___.
Company Name

_____
Signature

BY: _____
Printed Name

TITLE: _____

SECTION 00 61 13

CITY OF DE PERE

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That (CONTRACTOR NAME), as Principal, hereinafter called Contractor, and _____, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called the City, for the use and benefit of claimants as herein below defined in the amount of _____ _____(CONTRACT AMT. SPELLED OUT) ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ (date to be affixed by City) entered into a contract with City for Project 25-04, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payments to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with Contractor or with a subcontractor of Contractor for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, lights, heat, oil, gasoline, telephone service, or rental of equipment directly applicable to the contract.

2. The above named Contractor and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant may sue on this bond for the use of such claimant in the name of the City, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon, provided, however, that the City shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

   a. Unless claimant shall have given written notice to any two of the following: The Contractor, the City, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail, postage prepaid, in an envelope addressed to the Contractor, City, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State of Wisconsin, save that such service need not be made by a public officer.

   b. After the expiration of one (1) year following the date on which Contractor ceased work on said CONTRACT.

c. Other than in a state court of competent jurisdiction in and for the County or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens, which may be filed or recorded against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

SIGNED AND SEALED THIS _____ DAY OF _____, 20___.

In Presence of:

_____ _____
(WITNESS) (CONTRACTOR) (SEAL)

_____ _____
(WITNESS) (SURETY) (SEAL)

SECTION 00 61 16

CITY OF DE PERE

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That (CONTRACTOR'S NAME), as Principal, hereinafter called Contractor, and _____, as Surety, hereinafter called Surety, are held and firmly bound unto the City of De Pere, a municipal corporation of the State of Wisconsin, as Obligee, hereinafter called City, in the amount of _____(AMOUNT WRITTEN OUT) ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assign, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ (date to be affixed by City), entered into a contract with the City for Project 25-04, in accordance with drawings and specifications prepared by the Director of Public Works of said City, which contract is by reference made a part hereof, and is hereinafter referred to as the CONTRACT.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Contractor shall promptly and faithfully perform said CONTRACT, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Whenever Contractor shall be, and declared by the City to be in default under the CONTRACT, the City having performed City's obligations there under, the Surety may promptly remedy the default, or shall promptly

1. Complete the CONTRACT in accordance with its terms and conditions or

2. Obtain a bid or bids for submission to City for completing the CONTRACT in accordance with its terms and conditions, and upon determination by the City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City make available as work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable by City to Contractor under the CONTRACT and any amendments thereto, less the amount properly paid by City to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the CONTRACT falls due. No right of action shall accrue on this bond to or for the use of any person or corporation other than the owner named herein or the heirs, executors, administrators or successors of City.

SIGNED AND SEALED THIS _____ DAY OF _____, 20_____.

In the Presence of:

_____ _____
(WITNESS) (CONTRACTOR) (SEAL)

_____ _____
(WITNESS) (SURETY) (SEAL)

SECTION 00 62 76

APPLICATION FOR PAYMENT

Contractor's Application for Payment No.

Application Period:	Application Date:
Owner: City of De Pere	Contractor:
	Contractor's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders		
Number	Additions	Deductions
Total	$0.00	$0.00
NET CHANGE BY CHANGE ORDERS:		$0.00

1.	ORIGINAL CONTRACT PRICE:.....	
2.	Net change by Change Orders and Written Amendments (+ or -):.....	$0.00
3.	CURRENT CONTRACT PRICE (Line 1 plus Line 2):.....	$0.00
4.	Total completed and stored to date Column H on Progress Estimate:.....	$0.00
5.	Retainage (per Agreement):	
a.	Work Completed - Column H (95% up to 50% of Contract or 2.5% of 100% of Contract)	$0.00
6.	AMOUNT ELIGIBLE TO DATE (Line 4 minus 5).....	$0.00
7.	LESS PREVIOUS PAYMENTS (Line 6 from prior Application).....	$0.00
8.	AMOUNT DUE THIS APPLICATION (Line 6 minus Line 7).....	$0.00

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that:(1) all previous progress payments received from Owner on account of Work done under Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by the Application for Payment is in accordance with the Contract Documents and is not defective.

By:	Date:

Payment of: $ _____
(Line 8 or other - attach explanation of other amount)

is recommended by: _____ _____
(Contractor) (Date)

Payment of: $ _____
(Line 8 or other - attach explanation of other amount)

is recommended by: _____ _____
(Owner) (Date)

SECTION 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:	
Owner:	Owner's Contract No.:
Contractor:	

This [tentative] [definitive] Certificate of Substantial Completion applies to:
☐All Work under the Contract Documents: ☐The following specified portions of the Work:

_____
Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Contractor and Engineer, and found to be substantially complete. The Date of Substantial completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

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

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

☐Amended Responsibilities ☐ Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

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

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

Executed by Engineer Date

Accepted by Contractor Date

SECTION 01 10 00

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes
   1. References
   2. Work Covered by the Contract Documents
   3. Work Sequence/Schedule
   4. Use of Premises
   5. Warranty
   6. Work by Others
   7. Project Utility Sources
   8. Miscellaneous Provisions

1.2 REFERENCES

A. General Specifications. The work under this contract shall be in accordance with the City of De Pere, 2025 Construction Specifications and these Special Provisions and plans, and the latest edition of the Wisconsin Department of Transportation Standards Specifications for Highway and Structure Construction, where referenced in the City Specifications.

B. Definitions. Any reference to the "state" or the "department" in said Standard Specifications shall mean the "City of De Pere" for the purposes of this contract.

C. Industry Standards
   1. Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
   2. Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
   3. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement.
   4. The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements.

5. Each section of the specifications generally includes a list of reference standards normally referred to in that respective section. The purpose of this list is to furnish the Contractor with a list of standards normally used for outlining the quality control desired on the project. The lists are not intended to be complete or all inclusive, but only a general reference of standards that are regularly referred to.
6. Each entity engaged in construction on the Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.

1.3 WORK COVERED BY THE CONTRACT DOCUMENTS

A. Project Identification
   1. Project Location
      a. American Boulevard from 1,350 feet southwest of Garroman Drive to Garroman Drive.
      b. Grading and pond construction in an area bounded by the South City limits, Garroman Drive, the Canadian National Railroad Tracks, and Lawrence Drive.
   2. Work will be performed under the following prime contract:
      a. Project 25-04 American Boulevard Utility Extension

B. The Work includes:
   1. Sanitary sewer and associated appurtenances.
   2. Water main and associated appurtenances.
   3. Storm sewer and associated appurtenances.
   4. Unclassified excavation (pond and street construction).
   5. Crushed aggregate base course placement.
   6. Erosion control.
   7. Landscape restoration.

1.4 WORK SEQUENCE/SCHEDULE

A. Project shall be completed by July 31, 2026.

B. Install applicable erosion control practices prior to the start of construction.

C. This project is tentatively scheduled to go to the Board of Public Works on February 9 and Common Council on February 17 for consideration and award.

1.5 USE OF PREMISES

A. Contractor shall have full use of the premises for construction operations, including use of the Project Site, as allowed by law, ordinances, permits, easement agreements and the Contract documents.

B. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of the Project.

C. The Project Site is limited to property boundaries, rights-of-way, easements, and other areas designated in the Contract Documents.

D. Provide protection and safekeeping of material and products stored on or off the premises.

E. Move any stored material or products which interfere with operations of Owner or other Contractors.

1.6 WARRANTY

A. The Contractor warrants and guarantees to the City that all work shall be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects will be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this proposal.

B. If within one (1) year after the date of contract work completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents or by a special provision of the Contract Documents, any work is found to be defective, the Contractor shall comply in accordance with the City's written instructions. These written instructions will include either correcting such defective work or, if it has been rejected by the City, removing it from the site and replacing it with non-defective work. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk or loss or damage, the City may have the defective work corrected or the rejected work removed and replaced. All direct and indirect costs of correction or removal and replacement of defective work, including compensation for additional professional services, shall be paid by the Contractor.

1.7 WORK BY OTHERS

A. The City of De Pere Park Department will trim trees in conflict with construction if the City receives advanced notification. Questions regarding trees or landscaping that is bid as part of this contract can be directed to the Engineer.

B. Owner has awarded a separate contract for performance of certain construction operations which will be conducted at the Project Site after work under this Contract. This Contract includes the following:
   1. Project 26-02 2026 Concrete Street Paving
   2. Project 26-07 Curb Repair and Street Resurfacing
      a. Asphalt patch on Garroman Drive.
      b. Asphalt paving on cul-de-sac.

C. Cooperate fully with separate contractors and/or Owner so work by others may be carried out smoothly, without interfering with or delaying work under this Contract.

1.8 PROJECT UTILITY SOURCES

A. Green Bay Metropolitan Sewer District (NEW Water), Lisa Sarau, (lsarau@newwater.us) (920-438-1039)

B. AT&T, Kyle Weber, (kw715w@att.com) (920-221-5969)

C. Wisconsin Public Service, Bob Laskowski, (Robert.laskowski@wisconsinpublicservice.com) (920-4

D. Charter, Geoff Tulachka, (geoff.tulachka@charter.com)

E. Nsight, Rick Vincent, (rick.vincent@nsight.com) (920-617-7316)

F. TDS Metrocom, Chuck Zentmeyer, (chuck.zentmeyer@tdsmetro.com) (920-366-2807)

G. Net-Lec (Mi-Tech Services), Chris Kraus, (ckraus@mi-tech.us)

H. CenturyLink, Relocation Team, (relocations@lumen.com) (800-871-9244)

I. Central Brown County Water Authority, Rob Michaelson, (rmichaelson@mpu.org) (920-686-4354)

1.9 MISCELLANEOUS PROVISIONS

A. Access to the site shall be from American Boulevard. No access of construction equipment shall be from Garroman Drive or Ballyvaughn Road.

B. If pond grading is completed after the crushed aggregate base course is placed, trucking will not be allowed over aggregate.

C. The Green Bay Metropolitan Sewerage District (GBMSD) will own the sanitary sewer upon completion of the project. Notify GBMSD prior to working on the sanitary sewer. A GBMSD Representative is to be on-site when coring the sanitary sewer manhole.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 22 01

MEASUREMENT AND PAYMENT SANITARY SEWER

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Item No.
1. Sanitary Sewer Mains (Natural Backfill)	SS-01, SS-03
2. Sanitary Sewer Mains (Granular Backfill)	SS-02, SS-04
3. Sanitary Sewer Manholes	SS-05, SS-06
4. Connect to Existing Sanitary Sewer Manhole	SS-07

B. Unit Prices include:
   1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
   2. The method of measurement for payment.
   3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for sanitary sewer systems.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
   1. Traffic Control.
   2. Sawcutting asphalt and/or concrete.
   3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
   4. Dewatering.
   5. Bypass pumping.
   6. Excavation.
   7. Open Trench installation method (unless bid item specifies other method).
   8. Pipe Bedding.
   9. Backfilling and compacting native obtained from the excavation.
   10. Supplying, hauling, backfilling and compacting granular material.
   11. Loading, hauling and disposing of surplus excavated material.

12. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
13. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
14. Site access requirements including temporary aggregate material as required for local traffic access.
15. Bulkhead and abandoned existing sanitary sewer with flowable fill as shown on Drawings.
16. If crossing or undermining of existing public or private utility, then include:
    a. Maintaining the utility in service.
    b. Replacing of existing utilities, if damaged.
    c. Providing support and bedding material.
17. Dust control.
18. Remove and replace existing mailboxes and traffic signs.
19. Restroom facilities.
20. Easement and right-of-way requirements.
21. Construction staking and other survey work not provided by the Engineer.
22. Regulatory requirements.
23. Preconstruction videotaping and video equipment.
24. Quality assurance and quality control testing and inspections.
25. Shop drawings and other submittals.

1.3 SANITARY SEWER MAINS (NATURAL BACKFILL)

A. The unit price for Sanitary Sewer Main (Natural Backfill) work includes:
    1. General Work Items of Article 1.2.
    2. Sanitary sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
    3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
    4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.

C. The unit of measurement for payment is linear feet.

1.4 SANITARY SEWER MAINS (GRANULAR BACKFILL)

A. The unit price for Sanitary Sewer Main (Granular Backfill) work includes:
    1. General Work Items of Article 1.2.
    2. Sanitary sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.

3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.
5. Clay anti-seepage collar around pipe.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.

C. The unit of measurement for payment is linear feet.

1.5 SANITARY SEWER MANHOLES

A. The unit price for Sanitary Sewer Manholes work includes:
1. General Work Items of Article 1.2.
2. Precast reinforced concrete components.
3. Joint flexible gasket material.
4. Resilient flexible connector between the manhole structure and the sewer pipe.
5. Adjusting rings and bituminous plastic cement sealant at chimney.
6. Manhole steps.
7. Manhole frame and cover (Neenah Foundry R-1650-LM with cover Type C). Sanitary Sewer manhole covers shall have gaskets and concealed pick holes.
8. Bedding material.
9. Sewer pipe stub with connections and watertight plug (where required).
10. Final casting adjustment.

B. Measurement for payment will be the distance from the invert of the lowest sewer to the top of the frame and cover as set.

C. The unit of measurement for payment is vertical feet.

1.6 CONNECT TO EXISTING SANITARY SEWER MANHOLE

A. The unit price for Connect to Existing Sanitary Sewer Manhole work includes:
1. General Work Items of Article 1.2.
2. Sanitary Sewer Pipe same material strength or better than sewer main. Provide Fernco with stainless steel sheer bands and connection water tight seal.
3. Backfilling and compacting.

B. Measurement for payment will be the actual number completed.

C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 22 02

MEASUREMENT AND PAYMENT STORM SEWER

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Item No.
1. Storm Sewer Mains (Natural Backfill)	ST-01, ST-03, ST-05, & ST-09
2. Storm Sewer Mains (Granular Backfill)	ST-02, ST-04, ST-06, ST-07, ST-08, & ST-10
3. Storm Sewer Manholes	ST-11
4. Catch Basin/Inlets	ST-12
5. Connect to Storm Structure	ST-13
6. Flared End Section	ST-14, ST-15, & ST-16

B. Unit Prices include:
   1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
   2. The method of measurement for payment.
   3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for storm sewer systems.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
   1. Traffic Control.
   2. Sawcutting asphalt and/or concrete.
   3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
   4. Dewatering.
   5. Excavation.
   6. Open trench installation method (unless bid item specifies other method).
   7. Pipe bedding.
   8. Backfilling and compacting native obtained from the excavation.
   9. Supplying, hauling, backfilling and compacting granular material.

10. Loading, hauling and disposing of surplus excavated material.
11. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
12. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
13. Site access requirements including temporary aggregate material as required for local traffic access.
14. Bulkhead and abandon existing storm sewer with flowable fill as shown on drawings.
15. If crossing or undermining of existing public or private utility, then include:
    a. Maintaining the utility in service.
    b. Replacing of existing utilities, if damaged.
    c. Providing support and bedding material.
16. Dust control.
17. Remove and replace existing mailboxes and traffic signs.
18. Restroom facilities.
19. Easement and right-of-way requirements.
20. Construction staking and other survey work not provided by the Engineer.
21. Regulatory requirements.
22. Preconstruction videotaping and video equipment.
23. Quality assurance and quality control testing and inspections.
24. Shop drawings and other submittals.

1.3 STORM SEWER MAINS (NATURAL BACKFILL)

A. The unit price for Storm Sewer Main (Natural Backfill) work includes:
    1. General Work Items of Article 1.2.
    2. Storm sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
    3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
    4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.

C. The unit of measurement for payment is linear feet.

1.4 STORM SEWER MAINS (GRANULAR BACKFILL)

A. The unit price for Storm Sewer Main (Granular Backfill) work includes:
    1. General Work Items of Article 1.2.

2. Storm sewer pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
3. Excavation, breakdown and removal of abandoned piping inside the trench area, including plugging of existing connections.
4. Excavation, breakdown and removal of abandoned pipeline structures inside the trench area, including plugging of existing connections.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed sewer from centerline of the manhole to centerline of manhole with no deductions for manholes, sewer services branches and other fittings.

C. The unit of measurement for payment is linear feet.

1.5 STORM SEWER MANHOLES

A. The unit price for Storm Sewer Manholes work includes:
1. General Work Items of Article 1.2.
2. Precast reinforced concrete components.
3. Joint flexible gasket material.
4. Grout seal between the manhole and structure and the sewer pipe.
5. Adjusting rings and bituminous plastic cement sealant at chimney.
6. Manhole steps.
7. Manhole frame and cover.
8. Bedding material.
9. Sewer pipe stub with connections and watertight plug (where required).
10. Final casting adjustment.

B. Measurement for payment will be the distance from the invert of the lowest sewer to the top of the frame and cover as set.

C. The unit of measurement for payment is vertical feet.

1.6 CATCH BASIN/INLETS

A. The unit price for Catch Basin/Inlets work includes:
1. General Work Items of Article 1.2.
2. Precast reinforced concrete components.
3. Joint flexible gasket material.
4. Grout seal between the catch basin/inlet structure and the sewer pipe.
5. Adjusting rings grouted in place.
6. Casting frame and grate.
7. Bedding material.
8. Supply and install 6 to 10 feet of 4 inch flexible perforated plastic pipe with geotextile wrap subgrade drain.

9. Sand fill and Class “B” concrete floor and flow line.
10. Temporary cover over catch basin/inlet to prevent eroded materials from entering.
11. Final casting adjustment.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.7 CONNECT TO STORM STRUCTURE

A. The unit price for Connect to Storm Structure work includes:
   1. General Work Items of Article 1.2.
   2. Modify existing storm sewer manhole opening (where required).
   3. Provide concrete around the pipe, gasket, and manhole opening to form a sediment tight seal.
   4. Reform flow line in existing storm manhole.

B. Measurement for payment will be the actual number complete.

C. The unit of measurement for payment is each.

1.8 FLARED END SECTION

A. The unit price for Flared End Section includes:
   1. General Work Items of Article 1.2.
   2. Precast concrete components.
   3. Anchors to storm sewer pipe.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 22 03

MEASUREMENT AND PAYMENT WATER SYSTEM

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Item No.
1. Water Mains (Natural Backfill)	W-01 & W-03
2. Water Mains (Granular Backfill)	W-02
3. Valves	W-04 & W-05
4. Connection to Existing Water Mains	W-06
5. Fire Hydrants	W-07 & W-08
6. Hydrant Leads	W-09
7. Abandon/Remove Water Main and Appurtenances	W-10

B. Unit Prices include:
   1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
   2. The method of measurement for payment.
   3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for water systems.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
   1. Traffic Control.
   2. Sawcutting asphalt and/or concrete.
   3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
   4. Dewatering.
   5. Excavation.
   6. Open Trench installation method (unless bid item specifies other method).
   7. Pipe Bedding.
   8. Backfilling and compacting native obtained from the excavation.
   9. Supplying, hauling, backfilling and compacting granular material.

10. Loading, hauling and disposing of surplus excavated material.
11. Landscaping – turf establishment surface restoration and trees and bushes damaged during construction.
12. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
13. Site access requirements including temporary aggregate material as required for local traffic access.
14. Bulkhead and abandoned existing water main with flowable fill as shown on Drawings.
15. If crossing or undermining of existing public or private utility, then include:
    a. Maintaining the utility in service.
    b. Replacing of existing utilities, if damaged.
    c. Providing support and bedding material.
16. Dust control.
17. Remove and replace existing mailboxes and traffic signs.
18. Restroom facilities.
19. Easement and right-of-way requirements.
20. Construction staking and other survey work not provided by the Engineer.
21. Regulatory requirements.
22. Preconstruction videotaping and video equipment.
23. Quality assurance and quality control testing and inspections.
24. Shop drawings and other submittals.

1.3 WATER MAINS (NATURAL BACKFILL)

A. The unit price for Water Main (Natural Backfill) work includes:
    1. General Work Items of Article 1.2.
    2. Water pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
    3. Ductile or cast iron fittings.
    4. Tracer wire.
    5. Polyethylene encasement of ductile iron or cast iron pipe and fittings.
    6. Blocking and joint restraint.
    7. Disinfection of pipelines.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed water main with no deductions for fittings and valves.

C. The unit of measurement for payment is linear feet.

1.4 WATER MAINS (GRANULAR BACKFILL)

A. The unit price for Water Main (Granular Backfill) work includes:
    1. General Work Items of Article 1.2.

2. Water pipe and fittings of material stated in the Unit Price Bid Schedule and installed using the open trench method.
3. Ductile or cast iron fittings.
4. Tracer wire.
5. Polyethylene encasement of ductile iron or cast iron pipe and fittings.
6. Blocking and joint restraints.
7. Disinfection of pipelines.

B. Measurement of payment will be the actual horizontal length along the centerline of the installed water main with no deductions for fittings and valves.

C. The unit of measurement for payment is linear feet.

1.5 VALVES

A. The unit price for Valves work includes:
1. General Work Items of Article 1.2.
2. Valve.
3. Valve box.
4. Polyethylene encasement.
5. Stem.
6. Bedding material.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.6 CONNECTIONS TO EXISTING WATER MAINS

A. The unit price for Connection to Existing Water Mains work includes:
1. General Work Items of Article 1.2.
2. Locating existing water main.
3. Connection to the end of existing pipe.
   a. Remove existing plug.
   b. Direct connection to end of existing pipe.
   c. Transition fittings, if required.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.7 FIRE HYDRANTS

A. The unit price for Fire Hydrants work includes:
1. General Work Items of Article 1.2.

2. Fire hydrant complete of the specified bury depth.
3. Blocking and joint restraints.
4. Hydrant wrenches.
5. Hydrant markers.
6. Polyethylene encasement.
7. Drainage pit.
8. Disinfection of hydrant.
9. Tracer wire.
10. Tracer wire access box.

B. Measurement for payment will be the actual number installed.

C. The unit of measurement for payment is each.

1.8 HYDRANT LEADS

A. The unit price for Hydrant Leads work includes:
1. General Work Items of Article 1.2.
2. Pipe and fittings of material stated in the Unit Price Bid Schedule.
3. Blocking and joint restraints.
4. Tracer wire.
5. Disinfection of pipeline.

B. Measurement for payment will be the actual horizontal length along the centerline of the installed from the centerline of the water main to the centerline of the hydrant with no deductions for fittings and valves.

C. The unit of measurement for payment is linear feet.

1.9 ABANDON / REMOVE WATER MAIN AND APPURTENANCES

A. The unit price for Abandon/Remove Water Main and Appurtenances work includes:
1. General Work Items of Article 1.2.
2. Excavating
3. Install bulkheads and abandon water line.
4. Removing existing water main where in conflict with other utilities.
5. Providing and placing flowable fill.
6. Backfilling and compacting.
7. Removal and disposal of appurtenances as shown on the Drawings.

B. Measurement for payment will not be made. This includes all of the project area.

C. The unit of measurement for payment is lump sum.

END OF SECTION

SECTION 01 22 04

MEASUREMENT AND PAYMENT STREET AND DRAINAGE CONSTRUCTION

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Item No.
1. Topsoil and Unclassified Excavation	SD-01 & SD-02
2. Topsoil Stripping	SD-03
3. Backyard Swale Ditching	SD-04
4. Permitted Wetland Fill	SD-05
5. Crushed Aggregate Base and Surface Course	SD-06
6. Landscaping – Topsoil, Seed, Fertilize, and Mulch / Erosion Mat	SD-07, SD-08, SD-09 & SD-10

B. Unit Prices include:
   1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
   2. The method of measurement for payment.
   3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for street and drainage systems.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
   1. Traffic Control.
   2. Sawcutting asphalt and/or concrete.
   3. Removal, hauling and disposal of surface materials including road pavement, curb and gutter, sidewalk, driveways and other pavement surfaces in the trench area and as shown on the drawings.
   4. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site.
   5. Site access requirements including temporary aggregate material as required for local traffic access.
   6. Dust control.
   7. Remove and replace existing mailboxes and traffic signs.

8. Restroom facilities.
9. Construction staking and other survey work not provided by the Engineer.
10. Regulatory requirements.
11. Quality assurance and quality control testing and inspections.
12. Final casting and valve box adjustment.
13. Shop drawings and other submittals.

1.3 TOPSOIL AND UNCLASSIFIED EXCAVATION

A. The unit price for Topsoil and Unclassified Excavation work includes:
   1. General Work Items of Article 1.2.
   2. Removal of topsoil to depth available.
   3. Hauling and stockpiling topsoil.
   4. Excavation to subgrades shown on the Drawings.
   5. Hauling of unclassified material.
   6. Placing unclassified material in fill areas to subgrades shown on the Drawings and the subgrade required for placement of topsoil.
   7. Compaction of subgrade and fill areas.
   8. Test rolling subgrade.
   9. Excavation of undercut areas for placing topsoil.
   10. Respreading topsoil to final grades shown on the Drawings.
   11. Disposal of surplus topsoil, unclassified material and unsuitable material.
   12. Preparation of disposal site and transportation of material over an Engineer approved haul route from the site including all loading and dumping of material.
   13. Finish grading.

B. Measurement of payment will not be made unless there is a change in project scope. The estimated quantity represents the computed volume by comparing the triangulated surfaces and will be the basis for payment.

C. The unit of measurement for payment is cubic yards.

1.4 TOPSOIL STRIPPING

A. The unit price for Topsoil Stripping work includes:
   1. General Work Items of Article 1.2.
   2. Removal of topsoil in fill areas.
   3. Hauling and stockpiling topsoil.
   4. Placing unclassified material in stripped areas to subgrades shown on the Drawings.
   5. Compaction of subgrade and fill areas.
   6. Respreading topsoil to final grades shown on the Drawings.
   7. Finish grading.

B. Measurement for payment will be the area of topsoil stripped in the fill areas.
   1. The area for payment is designated in the plans.

C. The unit of measurement for payment is square yards.

1.5 BACKYARD AND SIDEYARD SWALE DITCHING

A. The unit price for Backyard and Sideyard Swale Ditching work includes:
   1. General Work Items of Article 1.2.
   2. Removal of topsoil to depth available.
   3. Hauling and stockpiling topsoil.
   4. Excavation to subgrades shown on the drawings.
   5. Hauling of unclassified material.
   6. Placing unclassified material in fill areas to subgrades shown on the Drawings and the subgrade required for placement of topsoil.
   7. Compaction of subgrade and fill areas.
   8. Excavation of undercut areas for placing topsoil.
   9. Respreading topsoil to final grades shown on the Drawings.
   10. Disposal of surplus topsoil, unclassified material and unsuitable material.
   11. Preparation of disposal site and transportation of material over an Engineer approved haul route from the site including all loading and dumping of material
   12. Finish Grading.

B. Measurement of payment will be the length ditching for backyard swales.

C. The unit of measurement for payment is linear feet.

1.6 PERMITTED WETLAND FILL

A. The unit price for Permitted Wetland Fill work includes:
   1. General Work Items of Article 1.2.
   2. Removal of vegetation.
   3. Hauling and placing topsoil on existing topsoil.
   4. Grading to provide drainage.
   5. Finish grading.

B. Measurement of payment will be made based on the area filled with topsoil, as directed by the Engineer.
   1. Landscaping restoration will be paid under other bid items.

C. The unit of measurement for payment is square yards.

1.7 CRUSHED AGGREGATE BASE AND SURFACE COURSE

A. The unit price for Crushed Aggregate Base and Surface Course work includes:
   1. General Work Items of Article 1.2.

2. Aggregate material.
3. Preparation of foundation.
4. Placing and compacting to thickness and width shown on the Drawings or specified elsewhere.
5. Maintenance until surface pavement is constructed.
6. Preparation of crushed aggregate base for paving.
7. Adjustment of manholes and valve boxes to proposed finish road grade.

B. Measurement of payment will be the actual amount of material required and incorporated in the work verified by submitting to the Engineer delivery tickets provided with each load showing the weight measured on a certified scale, type of material, the date delivered and the project name. Aggregates in excess of seven percent (7%) total moisture determined based on the dry mass of the aggregates will have moisture content in excess of seven percent (7%) deducted from the measured weight.

C. The unit of measurement for payment is tons.

1.8 LANDSCAPING- TOPSOIL, SEED, FERTILIZE AND MULCH / EROSION MAT

A. The unit price for Landscaping- Topsoil, Seed, Fertilize, and Mulch / Erosion Mat work includes:
1. General Work Items of Article 1.2.
2. Provide 4” topsoil or salvaged topsoil.
3. Provide seed.
4. Provide fertilizer.
5. Provide mulch or erosion mat.
6. Provide maintenance.

B. Measurement for payment will be the area disturbed, as shown on the plans. Additional areas disturbed but not approved by the Engineer will not be paid.

C. The unit of measurement for payment is square yard.

END OF SECTION

SECTION 01 22 05

MEASUREMENT AND PAYMENT SPECIAL CONSTRUCTION

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes:

	Bid Item No.
1. Silt Fence Erosion Control	SC-01
2. Inlet Protection Erosion Control	SC-02 & SC-03
3. Rip Rap Erosion Control	SC-04
4. Tracking Pad	SC-05
5. Adjusting Existing Structure Frame and Casting	SC-06

B. Unit Prices include:
   1. Defined work for each Unit Price Item which will provide a functionally complete Project when combined with all unit price items. If there are specific work items which the Contractor believes are not identified in any Unit Price Item, but is required to provide a functionally complete Project, then the identified specific work items shall be included in the appropriate Unit Price Item.
   2. The method of measurement for payment.
   3. The price per unit for payment.

1.2 GENERAL WORK ITEMS

A. Include with the appropriate Unit Price Item the following work items which are common to the Unit Price Items for special construction.

B. If there is a specific Unit Price Item for any of the following items, then the work item shall be included with that specific unit price item.
   1. Traffic Control.
   2. Loading, hauling and disposing of surplus material.
   3. Maintenance, protection, replacement and/or repair of facilities not designated for alteration on the Site beyond the limits identified.
   4. Dust control.
   5. Restroom facilities.
   6. Construction staking and other survey work not provided by the Engineer.
   7. Regulatory requirements.
   8. Quality assurance and quality control testing and inspections.
   9. Shop drawings and other submittals.

1.3 SILT FENCE EROSION CONTROL

A. The unit price for Silt Fence Erosion Control work includes:
   1. General Work Items of Article 1.2.
   2. Provide fabric and post.
   3. Excavate to anchor fabric and compact soil or provide soil class C-3 to anchor the fabric.
   4. Inspection and maintenance of the installed silt fence.
   5. Removal of the silt fence.
   6. Finish grading.
   7. Topsoil, seeding, fertilizing, and mulching area in the vicinity of the removed silt fence which does not have established turf.

B. Measurement of payment will be the actual horizontal length installed.

C. The unit of measurement for payment is linear feet.

1.4 INLET PROTECTION EROSION CONTROL

A. The unit price for Inlet Protection Erosion Control work includes:
   1. General Work Items of Article 1.2.
   2. Provide geotextile and wood materials for type shown on the Drawings.
   3. Placing inlet protection system.
   4. Inspection and maintenance of the installed inlet protection.
   5. Removal of the inlet protection.
   6. Cleaning debris buildup around inlet.

B. Measurement for payment will be actual number of inlet protection erosion control installed.

C. The unit of measurement for payment is each.

1.5 RIP RAP EROSION CONTROL

A. The unit price for Rip Rap Erosion Control work includes:
   1. General Work Items of Article 1.2.
   2. Provide rip rap material and geotextile fabric.
   3. Excavate and place rip rap material.

B. Measurement for payment will be the actual area installed.

C. The unit of measurement for payment is square yards.

1.6 TRACKING PAD

A. The unit price for Tracking Pad work includes:

1. General Work Items of Article 1.2.
2. Install to the dimensions as shown on the drawing or specified elsewhere.
3. Providing filter fabric.
4. Providing crushed aggregate base course (3 inch clear stone).
5. Daily maintenance of aggregate.
6. Removal of aggregate and restore with topsoil, seed, fertilizer and mulch.

B. Measurement for payment will be the actual number of tracking pads installed.

C. The unit of measurement for payment is each.

1.7 ADJUST EXISTING STRUCTURE FRAME CASTING

A. The unit price for Adjusting Existing Structure Frame Casting work includes:
   1. General Work Items of Article 1.2.
   2. Removal of the casting and existing adjusting rings from the structure as required.
   3. Providing concrete adjusting rings and a 2 inch rubber riser ring from the WisDOT approved product list.
   4. Bituminous plastic cement sealing the exterior of the adjusting rings and casting.
   5. The ring will be secured to the precast section with a 3 ½ inch wide Kent Seal or equal.
   6. Above the concrete ring attach ¼ inch thru 3 inch thick ring using two $^{5}/_{16}$ inch bead above and below the ring of sealant type as recommended by the rubber manufacturer.
   7. Initial and final adjustment.
   8. Backfilling and compacting.
   9. Casting is bolted to structure. Cut bolts down after lowering casting.

B. Measurement for payment will be the actual number of structure frame casting adjusted.

C. The unit of measurement for payment is each.

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes:
   1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

A. Unit Price work will be the Schedule of Values used as the basis for reviewing Applications for Payment.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as recommended by the Engineer and approved by Owner.

B. The date for each progress payment should be the 3rd Wednesday of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends the 4th Friday of the Month.

C. Use forms provided by Engineer for Applications for Payment. Sample copy of the Application for Payment and Continuation Sheet is included in Section 00 62 76.

D. Application Preparation Procedures
   1. When requested by the Contractor, the Engineer will determine the actual quantities and classifications of Unit Price Work performed.
      a. Preliminary determinations will be reviewed with the Contractor before completing Application for Payment.
      b. Engineer will complete the Application for Payment based on Engineer's decision on actual quantities and classifications.
      c. Engineer will submit three original copies of Application for Payment to Contractor for certification of all three original copies.
      d. Contractor shall submit signed Application for Payment to Owner for approval within time frame agreed to at the Preconstruction Conference.
   2. If payment is requested for materials and equipment not incorporated in the Work, then the following shall be submitted with the Application for Payment:
      a. Evidence that materials and equipment are suitably stored at the site or at another location agreed to in writing.

b. A bill of sale, invoice, or other documentation warranting that the materials and equipment are free and clear of all liens.
c. Evidence that the materials and equipment are covered by property insurance.

3. Complete every entry on form. Execute by a person authorized to sign legal documents on behalf of Contractor.

E. With each Application for Payment, submit waivers of liens from subcontractors and suppliers for the construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested before deduction for retainage on each item.
2. When an application shows completion for an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work shall submit waivers.
4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application.
5. Submit waivers of lien on forms executed in a manner acceptable to Owner.

F. The following administrative actions and submittals shall precede or coincide with submittal of first Application for Payment:
1. List of subcontractors.
2. Schedule of Values (For Lump Sum Work).
3. Contractor's construction schedule.

G. Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. Consent of Surety to Final Payment.
5. Final lien waivers as evidence that claims have been settled.
6. Final liquidated damages settlement statement.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 32 33

CONSTRUCTION PHOTOGRAPHS

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Photographs for utility construction sites.

1.2 SUBMITTALS

A. Submit electronic files of each photographic view within seven (7) days of taking photographs.

1.3 QUALITY ASSURANCE

A. Photographs are to be submitted to the Engineer for approval prior to the start of construction.

PART 2 – PRODUCTS

PART 3 – EXECUTION

3.1 UTILITY AND STREET CONSTRUCTION SITES

A. Prior to start of construction provide sufficient photographs to adequately show the existing facilities and conditions within and adjacent to the construction Site to serve as a guide for final restoration including:
   1. Roads including shoulders and/or curb and gutter.
   2. Sidewalks, parking areas, and driveways.
   3. Utility structures.
   4. Landscaping including signs, plantings, walls, fences, trees, shrubbery, etc.
   5. Mailboxes.
   6. Drainage facilities including culverts, inlets, ditches.
   7. Building structures.

B. During construction provide sufficient photographs (a minimum of one per 100 feet of installed utility) to adequately show construction means, methods, and Site conditions including:
   1. Crossings of other utilities.
   2. Exposure of existing structures.
   3. Soil conditions.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for submittals:
   1. Progress Schedule.
   2. Schedule of Shop Drawings and Sample Submittals.
   3. Shop Drawings.

B. Failure to meet Submittal requirements to the satisfaction of the Engineer will constitute unsatisfactory performance of the work in accordance with the Contract Documents, therefore, the Engineer may recommend to the Owner that all or a portion of payments requested during the corresponding pay period be withheld until these requirements are met.

1.2 SUBMITTAL PROCEDURES

A. Coordination: Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.
      a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
   3. To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for re-submittals.
      a. Allow two weeks for initial submittal.
      b. Allow two weeks for reprocessing each submittal.
      c. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the work to permit processing.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
   1. Assign a reference number to each submittal and re-submittal.
   2. Provide a space approximately four (4) by five (5) inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
   3. Include the following information on the label for processing and recording action taken.

a. Project name.
b. Date.
c. Name and address of the Engineer.
d. Name and address of the Contractor.
e. Name and address of the subcontractor.
f. Name and address of the supplier.
g. Name of the manufacturer.
h. Number and title of appropriate Specification Section.
i. Drawing number and detail references, as appropriate.

4. Each submittal shall be stamped by the Contractor indicating that submittal was reviewed for conformance with the Contract Documents. The Engineer will not accept unstamped submittals.

C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal to the Engineer. The Engineer will not accept submittals received from sources other than the Contractor.
1. On the transmittal, record relevant information and requests for Engineer action. On a form, or separate sheet, record deviations from Contract Document requirements, including variations, limitations, and justifications. Include Contractor's certification that information complies with Contract Document requirements.

1.3 CONTRACTOR'S PROGRESS SCHEDULE

A. Prepare and submit to the Engineer within 10 (ten) days after the Effective Date of the Agreement, four copies of a preliminary progress schedule of the work activities from Notice to Proceed until Substantial Completion.
1. Provide sufficient detail of the work activities comprising the schedule to assure adequate planning and execution of the work, such that in the judgment of the Engineer, it provides an appropriate basis for monitoring and evaluation of the progress of the work. A work activity is defined as an activity which requires substantial time and resources (manpower, equipment, and/or material) to complete and must be performed before the contract is considered complete.
2. The schedule shall indicate the sequence of work activities. Identify each activity with a description, start date, completion date and duration. Include, but do not limit to the following items, as appropriate to this contract:
a. Shop drawing review by the Engineer.
b. Excavation and grading.
c. Asphalt and concrete placement sequence.
d. Restoration.
e. Construction of various segments of utilities.
f. Subcontractor's items of work.
g. Allowance for inclement weather.
h. Contract interfaces, date of Substantial Completion.
i. Interfacing and sequencing with existing facilities and utilities.

j. Sequencing of major construction activities.
k. Milestones and completion dates.

B. Distribution: Following response to the initial submittal, print and distribute copies of the revised construction schedule to the Engineer, Subcontractors, and other parties required to comply with scheduled dates. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

C. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

D. Punch List: Prepare and submit to the Engineer within ten (10) days after substantial completion a detailed progress schedule for outstanding work and punch list items.

1.4 SCHEDULE OF SHOP DRAWINGS AND SAMPLE SUBMITTALS

A. Submit electronic or one (1) hard copy of preliminary submittal schedule in accordance with the General Conditions of the Contract and as follows:
1. Coordinate submittal schedule with the subcontractors, Schedule of Values, and of products as well as the Contractor's Progress Schedule.
2. Prepare the schedule in chronological order. Provide the following information:
a. Scheduled date for the first submittal.
b. Related Section number.
c. Submittal category (Shop Drawings, Product Data, or Samples).
d. Name of the subcontractor.
e. Description of the part of the work covered.
f. Scheduled date for the Engineer's final release or approval.

B. Distribution: Following response to the initial submittal, print and distribute copies of the revised construction schedule to the Engineer, Subcontractors, and other parties required to comply with scheduled dates. Post copies in the field office. When revisions are made, distribute to the same parties. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.5 SHOP DRAWINGS

A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or

copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.

B. Collect product data into a single submittal for each element of construction of system. Product data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
   1. Mark each copy to show actual product to be provided. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
      a. Manufacturer's printed recommendations.
      b. Compliance with trade association standards.
      c. Compliance with recognized testing agency standards.
      d. Application of testing agency labels and seals.
      e. Notation of dimensions verified by field measurement.
      f. Notation of coordination requirements.

C. Do not use shop drawings without an appropriate final stamp indicating action taken.

D. Submittals: Submit electronic or one (1) hard copy of each required submittal. The Engineer will scan and return the submittal to the Contractor marked with action taken and corrections or modifications required.

E. Distribution: Furnish copies of reviewed submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms. Maintain one copy at the project site for reference.
   1. Do not proceed with installation until a copy of the Shop drawing is in the Installer's possession.
   2. Do not permit use of unmarked copies of the Shop Drawing in connection with construction.

1.6 ENGINEER'S ACTION

A. Except for submittals for the record or information, where action and return is required, the Engineer will review each submittal, mark to indicate action taken, and return promptly. The Engineer will stamp each submittal with a uniform action stamp. The Engineer will mark the stamp appropriately to indicate the action taken, as follows:
   1. "No Exceptions Taken": The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.
   2. "Make Corrections Noted": The work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents.

3. "Amend and Resubmit": Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Amend and Resubmit" at the Project Site or elsewhere where work is in progress.
4. "Rejected – See Remarks": Do not proceed with work covered by the submittal. Resubmit without delay. Do not use, or allow others to use, submittals marked "Rejected and Resubmit" at the Project Site or elsewhere where work is in progress.

B. Unsolicited Submittals: The Engineer will return unsolicited submittals to the sender without action.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Underground Utilities.
   2. Property Monuments.
   3. Traffic Control.
   4. Permits for Project.

1.2 UNDERGROUND UTILITIES

A. Under the provisions of Wisconsin Statutes, Section 182.0175, all contractors, subcontractors, and any firm or individual intending to do work on this Contract shall contact all utility firms in the affected area of construction a minimum of three (3) working days prior to beginning construction so that affected utilities will be located and marked.

1.3 PROPERTY MONUMENTS

A. Protect iron pipe monuments from movement.

B. The cost of replacement of any monuments moved or destroyed during construction shall be the Contractor's responsibility.

C. Perpetuation of destroyed or moved monuments shall be performed in accordance with state statutes by a registered land surveyor.

1.4 TRAFFIC CONTROL

A. Provide traffic control facilities including barricades, signs, lights, warning devices, pavement markings, flaggers, etc.

B. Construct and use traffic control facilities in accordance with the U.S. D. O. T. Federal Highway Administration's Manual on Uniform Traffic Control Devices for Streets and Highways.

C. Maintain traffic control devices as required to properly safeguard the public travel through final completion, including during periods of suspension of work.

1.5 PERMITS FOR PROJECT

A. The following permits are being obtained by the Owner:

1. WDNR – NOI
2. WDNR – Sanitary Sewer Extension
    i. Approval for this permit may take 90 days. Permits will be submitted prior to project award.
3. WDNR – Water Main Extension

B. Any costs associated with violations pertaining to the NOI permit will be the responsibility of the Contractor.

PART 2 – PRODUCTS (Not used)

PART 3 – EXECUTION (Not used)

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Engineering Surveys Provided by the Engineer.
   2. Engineering Surveys Provided by the Contractor.

1.2 SUBMITTALS

A. None

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 PREPARATION

A. Investigate and verify the existence and location of site improvements, utilities, and other existing facilities.

B. Before construction, verify the location of invert elevations at points of connection of sanitary sewer, storm sewer, water piping and underground electrical services.

C. Furnish information to the Engineer and the appropriate utility regarding conflicts that are necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction.

D. Provide the Engineer two (2) working days advance notification when ready for engineering surveys for construction to be provided by the Engineer.

3.2 ENGINEERING SURVEYS TO BE PROVIDED BY THE ENGINEER

A. General
   1. Establish benchmarks for construction as shown on the drawings.
   2. Establish control points as shown on the drawings.

B. Gravity Sewer Systems and Water Distribution Systems
   1. Provide construction reference stakes set for pipe construction location at critical changes in horizontal and vertical alignment.

2. Provide construction stakes for location of pipe at connections.

C. New Road Construction
   1. Provide construction slope intercept stakes for horizontal and vertical alignment on each side of the road base on each cross section in the cross section sheets for requests received at least seventy-two (72) hours before the related work begins.
   2. Provide construction reference stakes for subgrade at a minimum of fifty (50) foot intervals and maximum of one-hundred (100) foot intervals on tangents. Provide construction reference stakes for subgrade at twenty-five (25) foot intervals within vertical and horizontal curves. Provide a reference line stake at each location.
   3. Provide construction reference stakes for top of crushed aggregate at a minimum of fifty (50) foot intervals and maximum of one-hundred (100) foot intervals on tangents. Provide construction reference stakes for top of crushed aggregate at twenty-five (25) foot intervals within vertical and horizontal curves. Provide a reference or centerline stake.

3.3 ENGINEERING SURVEYS TO BE PROVIDED BY THE CONTRACTOR

A. General
   1. Locate, preserve and protect established construction reference stakes, benchmarks and control points.
   2. Locate, preserve and protect property corners and section corner monuments. If moved or destroyed due to Contractor negligence, then replace in accordance with state requirements; some of which are referenced in the “Regulatory Requirements”.
   3. Provide additional construction staking as necessary to complete construction based on the construction reference stakes provided by the Engineer and the Drawings.
   4. Before beginning with necessary construction staking, verify the information shown on the Drawings, in relation to the established construction reference stakes, bench marks, control points and property corners. Notify the Engineer of any discrepancies.
   5. Remove construction reference stakes when directed by the Engineer.

B. Gravity Sewer Systems and Water Distribution Systems
   1. Provide any intermediate construction reference points as required to verify installation at the line and grade established and locate appurtenant structures.
   2. Check the line and grade with construction reference stakes at each pipe length.

C. New Road Construction
   1. Provide additional construction reference stakes necessary to establish location and grade in accordance with the plans.

END OF SECTION

SECTION 31 23 00.1

EARTHWORK

PART 1 – GENERAL

1.1 SUMMARY

A. Work in this section shall include but not be limited to the following:
   1. Excavation.
   2. Test rolling.
   3. Filling and compacting.
   4. Backfilling around structures.
   5. Disposal of surplus materials.
   6. Finish grading.

1.2 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)
   1. D4318 Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
   2. D1140 Test for Amount of Material in Soils Finer than the No. 200 Sieve
   3. D1556 Test for Density of Soil in Place by the Sand-Cone Method
   4. D1557 Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-Lb (4.54 kg) Rammer and 18 in. (457 mm) Drop
   5. D2216 Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures
   6. D2922 Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
   7. D3017 Test for Moisture Content of Soil and Soil-Aggregate by Nuclear Method (Shallow Depth)

1.3 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00, Submittals:
   1. Two (2) copies of testing data of laboratory tests to the owner's representative if material is brought from off site.

1.4 DENSITY TESTING

A. The Engineer will provide an independent testing laboratory to provide testing services.

B. Anticipated testing schedule as follows:

Fill Utilized For:	**Number of Acceptable Tests for Each Class or Fill:**
Embankments, dikes or berms	1 test per 600 cubic yards
Structural or controlled fills	1 test per 1,500 square feet, minimum of 1 test per lift
Trench backfill under paved or surfaced areas greater than 15' depth	1 test per 100 feet of trench or any portion thereof, in the lower 1/4, each middle 1/4, and upper 1/4 of backfill
Trench backfill under paved or surfaced areas less than 15' depth	1 test per 100 feet of trench or any portion thereof, in the lower 1/3, middle 1/3, and upper 1/3 of backfill
Lateral trench backfill	1 test per 100 feet of trench with a minimum of 1 test location per trench in the lower 1/3, middle 1/3, and upper 1/3.
Non-structural fills	1 test per 2,000 cubic yards

PART 2 – PRODUCTS

2.1 SOIL MATERIALS

A. Soil used for borrow, fill, and backfilling shall meet the requirements of soil class as called for on plans or in specifications.

B. As a minimum, all soil shall meet the requirements of Soil Class G-1.

C. All soil classes shall be as per Section 31 05 10, Soils and Aggregates for Earthwork.

PART 3 – EXECUTION

3.1 EXCAVATION

A. Excavation to Correct Grade
   1. Excavate site of structures and pavements as follows:
      a. To elevation shown on the plans.
      b. To such additional width as necessary for erection and removal of forms, shoring or sheeting, and finishing of walls.
   2. Excavation of unsuitable materials.
      a. Excavate unsuitable soil materials under a proposed structure.
      b. Excavation shall extend lateral a minimum of 5 feet beyond the building limits plus 1 foot for each foot of cut below the foundation.
      c. Notify the Owner's project representative prior to proceeding with their removal of unsuitable material.

B. Borrow Excavation
   1. Clear site in accordance with Section, 31 10 00, Site Clearing.

2. Strip and stockpile topsoil.
3. Excavate, haul, place, and compact borrow soil material.
4. Regrade borrow areas as shown on the plans or in an acceptable manner to facilitate proper site drainage.
5. Replace stockpiled topsoil.
6. Surplus topsoil may be utilized in borrow area regarding.
7. Seed and mulch in accordance with Section 32 92 00, Turf and Grasses.

C. Excavation Precautions
   1. Excavation slope stability.
      a. Maintain excavation slope to ensure a stable excavation and prevent caving.
      b. Provide and erect all timber work, shoring, sheeting, bracing, etc. necessary to prevent caving and displacement of adjacent property.
         1) Shoring shall be placed so as not to interfere with building work.
         2) Shoring shall be independent of footings.
   2. Underpinning existing structures.
      a. Underpin as necessary to protect existing structures and foundations.
      b. Furnish all material, labor, and equipment necessary to complete underpinning operations.
   3. Dewatering of excavations.
      a. Contractor shall provide and maintain all equipment necessary to keep excavated areas free of all groundwater, surface water, or precipitation.
      b. Soil which becomes soft, yielding, or loses support due to inadequate dewatering efforts shall be dealt with as follows:
         1) Excavate disturbed soil materials for their entire depth.
         2) Replace excavated materials with an approved fill material.
   4. Protect excavation from freezing.
      a. Take precautions necessary to prevent frost from entering subgrade soils.
      b. If subgrade becomes frozen, remove snow, ice, and frozen soil prior to placement of additional fill or finish surfacings.

3.2 FILLING AND COMPACTING

A. Layer thickness for fill soil shall be as follows:
   1. Layer thickness shall be dependent on the soil classification type, weight, and soil contact pressure of compaction equipment being used.
   2. Layer thickness shall not exceed 8 inches.

B. Compaction
   1. Compaction method for fill soils shall be appropriate for soil material being compacted and provide sufficient soil contact pressure to thoroughly compact entire lift thickness.

C. Proper soil moisture contents for compaction shall be maintained in all soils.
   1. Optimum moisture content as determined by Modified (ASTM D1557) Proctor shall be used

to determine acceptance moisture contents for soil compaction.

2. Contractor shall scarify and compact existing ground prior to placing fill material.

D. Compaction requirements for all fill soils unless specified elsewhere shall be as follows:

Class 1 - Fills supporting structures.
- Subgrade under pavements or floors.
- Backfill under piping and conduits.

Class 2 - Fills which do not support structures.

COMPACTION REQUIREMENTS FOR
VARIOUS SOIL CLASSES

	Required Compaction (%) of Modified Proctor Density	
Soil Class	Class 1	Class 2
B-3 through B-4	95	90
C-1 through C-6	95	90
D-1 through D-3, and G-1 and G-2	95	90
E-1	95	90

3.3 TEST ROLLING

A. The following testing services shall be provided:
   1. The subgrade condition and elevation shall be checked by the Engineer prior to placement of fill material. The subgrade will be proof rolled using a tandem axle dump truck fully loaded with fill material to the maximum legal weight limit. The fill condition and elevation shall be checked by the Engineer prior to placement of subsequent courses.

B. Treat areas showing yielding or rutting under test rolling as follows:
   1. Replace and/or recompact as necessary to stabilize the area.
   2. Retest soil areas replaced or recompacted.

3.4 BACKFILLING AROUND STRUCTURES

A. Do not backfill any foundation, wall, or structure prior to inspection by the Engineer.

B. Backfilling under pipes or conduits in areas excavated due to construction.
   1. Contractor shall furnish and compact Soil Class A-7 under all piping or conduits.
      a. Compact fill shall extend from undisturbed earth to grade.
      b. Place and compact fill in all areas disturbed by construction.

3.5 DISPOSAL OF SURPLUS MATERIALS

A. The Owner shall have prior claim to all surplus excavated material. If such claim is exercised by the Owner, the material shall be deposited at such points as may be directed by the Engineer at the expense of the Contractor, the haul not to exceed two (2) miles. If Owner does not desire to claim surplus excavated material, the Contractor shall be totally responsible for obtaining a disposal site. No material shall be disposed of in a floodplain, wetland or waterway.

   After delivery to any designated location, such material shall be leveled off by the Contractor.

3.6 FINISH GRADING

A. Grade, trim, and shape subgrade to required grade and section.
   1. Adjust slopes by grading so that transition is smooth and gradual.
   2. The crests of cut banks shall be rounded and shaped.
   3. Washouts and ruts shall be refilled, regarded, and properly compacted.
   4. Remove all stones 3 inches or larger from grading limits.

B. Vertical Grading Tolerances
   1. Rough grading tolerance.
      a. Areas to be topsoiled – rough grade to within 0.2 foot of finish grades.
   2. Areas having paved surfaces (i.e., concrete, asphalt, etc.).
      a. Maximum allowable variation from correct profile and section shall not be more than ¼-inch in 10 feet.

END OF SECTION

SECTION 32 90 10

NATIVE LANDSCAPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes requirements for the following:
   1. Site Preparation.
   2. Seeding.
   3. Planting.
   4. Maintenance.
   5. Warranty.

1.2 REFERENCES

A. Native material references:
   1. Black, M.R. and E.J. Judziewicz. 2009. Wildflowers of Wisconsin and the Great Lakes Region. University of Wisconsin Press, Madison, WI.
   2. Curtis, J. 1959. Vegetation of Wisconsin. University of Wisconsin Press, Madison, WI.
   3. Fassett, N.C. 1975. A Manual of Aquatic Plants. University of Wisconsin Press, Madison, WI.
   4. Fassett, N.C. 1976. Spring Flora of Wisconsin. University of Wisconsin Press, Madison, WI.
   5. Hip, A.L. 2008. Field Guide to Wisconsin Sedges – An Introduction to the Genus *Carex* (*Cyperaceae*). University of Wisconsin Press, Madison, WI.
   6. Kelsey, H.P, and W.A. Dayton. Standardized Plant Names. American Joint Committee on Horticulture Nomenclature (current edition).

B. "State Specifications:" State of Wisconsin Department of Transportation, "Standard Specifications for Highway and Structure Construction – Sections 627,630 & 632," current edition, including any subsequent Supplemental Specifications.

C. Wisconsin Statutes and Wisconsin Administrative Code - Chapters ATCP 20 and 29.

D. American Association of Nurserymen, Inc. (AAN) Standard: American Standard for Nursery Stock (ANSI Z60.1).

E. Standard Methods of the Association of Official Agricultural Chemists.

1.3 SUBMITTALS

A. Submit the following to the OWNER and ENGINEER prior to installation:

1. Information indicating vendor, species botanical and common names, gross weight, seed purity (% PLS), harvest date, and origin. Original nursery packaging for each species must be provided 14 days after seeding activities are completed.
2. Information indicating vendor, species botanical and common names, and pot size. Plant material shall comply with State of Wisconsin and federal laws with respect to inspection for plant diseases and insect infestation.
3. Inspection certificates and paperwork indicating the licensed nursery, species botanical and common names, and material size within 14 days of shipment.
4. Chemical Labels and Herbicide Application Record(s) within 30 days after application.
5. Photograph or detailed design of goose fencing system.

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. CONTRACTOR or Subcontractor shall be a company specializing in native landscaping installation and be able to show three (3) successful projects.
   2. Perform planting by personnel familiar with accepted native landscape planting procedures. Qualified foreman, representing CONTRACTOR or Subcontractor, shall be on-site during planting procedures. The individual shall be an ecologist with at least 3 years of native plant installation experience.
   3. Submit qualifications requested on the ***qualification form*** with the bid. OWNER has sole authority to approve or disapprove native landscape contractor and/or subcontractor at OWNER's sole discretion.

B. Ability to Deliver:
   1. Investigate sources of supply and confirm they can supply plants specified on plant list in sizes, variety, and quantity noted and specified before submitting bid. Failure to take this precaution will not relieve responsibility for furnishing and installing plant material in accordance with Contract requirements.
   2. Substitutions may be permitted only upon submission of written proof that specified plant is not obtainable locally. Such substitution may be made upon written authorization by qualified botanist. Adjustments will be made at no additional cost to OWNER.
   3. Provide seed and plant materials discussed below in quantity and size designated.

C. Inspection:
   1. OWNER and ENGINEER may inspect plant material at nursery. Such inspection shall be in addition to inspection at job site.
   2. Upon delivery and before seeding and/or planting, OWNER and ENGINEER may inspect seed packages and plants.
   3. Inspection and approval is for quality, size, and variety only, and in no way impairs right of rejection for failure to meet other requirements during progress of Work.
   4. CONTRACTOR shall be present during required inspections.

D. Source Quality Control.

1. Certification: Landscape materials shall be from stock inspected and certified by authorized governmental agencies. Material shall comply with governmental regulations prevailing at supply source and project.
2. Plant material shall comply with State of Wisconsin and federal laws with respect to inspection for plant diseases and insect infestation.
3. Size and grading standards of plant materials shall be in accordance with American Association of Nurserymen, Inc. (AAN) Standard: American Standard for Nursery Stock (ANSI Z60.1).

E. VHS and INVASIVE SPECIES
1. To the extent practicable, equipment and gear used on infested waters should not be used on other non-infested waters.
2. All equipment utilized for the project including but not limited to tracked equipment, barges, boats, silt/turbidity curtains, hoses and pumps shall be decontaminated for invasive and exotic viruses and species prior to and after use. The following steps shall be taken every time equipment is moved to avoid transporting invasive and exotic viruses and species:
   a. Inspect and remove terrestrial and aquatic plants, seeds, animals and mud from equipment.
   b. Drain all water from equipment that comes in contact with infested waters.
   c. Dispose of aquatic plants and animals in the trash. Never release or transfer aquatic plants, animals or water from one water body to another.
   d. Wash equipment with hot (>104 degrees F) and/or high pressure water **OR** allow your equipment to dry thoroughly for 5 days.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Delivery:
1. Seed:
   a. Pack seeds for delivery in suitable bags in accordance with standard commercial practice.
   b. Tag or label each bag as required by laws of State of Wisconsin and Federal Seed Act. Vendor's name shall show on or be attached to each bag together with statement signed by vendor indicating following:
      i. Kind of seed contained.
      ii. Percentage of purity and germination for native grass/sedge mix.
      iii. Percentage of hard seed, if any.
      iv. Statement conforming to laws of State of Wisconsin herein before mentioned showing percentage of weed seeds, if any.
2. Potted or Container Plants:
   a. Provide container to hold rootstock protecting root mass and structure during delivery and handling.
   b. Roots shall be developed and free from root rot.
   c. Roots shall be kept cool and moist and out of sun and wind.
   d. Bare root plants are unacceptable unless potted material is unavailable and substitution is accepted by OWNER and ENGINEER. Where bare root stock is used, it must be delivered and handled in such a way that roots are never allowed to dry out.

e. Before wetland plant stock is transported, the top of the bulrush and other tall emergent shall be cut to leave an approximate 2-foot height. The intent is to promote rapid regrowth upon transplanting and to make them easier to transport.

B. Delivery:
   1. Schedule shipping to minimize on-site storage of materials.
   2. Plant Material: Take precautions in accordance with best trade practices and nursery recommendations to ensure arrival of material at Project Site in good condition and without injury. Cover plants to prevent freezing, drying, transit injury, or other exposure. During shipment, plants shall not be bent, stacked, or bound in manner that damages or destroys natural shape. Soil moisture shall be checked and material watered, if necessary.
   3. Seed: Each species shall be delivered to the project site in the nursery's original, sealed packaging and labeled in accordance with Wisconsin State Law and the Federal Seed Act.
   4. Notify ENGINEER 48 hours before delivery of seed and/or plant material.
   5. Each shipment shall be accompanied by paperwork showing sizes and varieties included. Failure to notify ENGINEER in advance, in order to arrange proper scheduling, may result in loss of time or removal of plant material not installed as specified.
   6. Protect seed against weather-related damage or other damages occurring during transit. Remove from site, seed that has become wet, moldy, or otherwise damaged and replace without extra cost to OWNER.
   7. Fertilizer: Deliver fertilizer to site in original, unopened containers bearing weight, manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to state law.
   8. Deliver topsoil in an unfrozen and non-muddy condition.

C. Temporary Storage:
   1. Storage of Plant Material:
      a. Set plants that are not to be planted within 4 hours, on ground and heal in with peat, soil, mulch or other approved media.
      b. Protect roots of plant material from drying or other possible injury.
      c. Water plants as necessary until planted.
      d. Plants shall not remain unplanted for longer than 3 days.
      e. Maintain plants in cold storage at approximately 30^{o}F prior to being delivered to Site.
   2. Keep seed cool and dry and protect against weather-related damage or other damages occurring during storage so their effectiveness will not be impaired. Do not store in direct contact with ground. Replace seed that has become wet, moldy, or otherwise damaged at CONTRACTOR'S expense.
   3. Store fertilizer, humus, and spray materials in weatherproof storage areas and in such manner their effectiveness will not be impaired.

PART 2 - PRODUCTS

2.1 PLANT SPECIMENS

A. General:
1. Plant material shall be nursery grown or harvested unless otherwise specified or approved in writing by ENGINEER.
2. Unless specifically noted otherwise, plant material shall be of selected specimen quality, have normal habit of growth, and be sound, healthy, vigorous plants with well-developed root systems.
   Plants shall be free of disease, insect pests, their eggs or larvae, and injuries.
3. Plant/Seed information:
   a. See Paragraphs 2.01 E. & F. for seed mix and plant quantity requirements. It is the CONTRACTOR'S responsibility to ensure plants and/or seed are true to species and variety and conform to measurement specified in Paragraphs 2.01 E. & F., except plants larger than specified may be used if approved by ENGINEER. Use of such plants shall not result in increase in Contract Price.
   b. Where plants larger than specified have been submitted in writing for approval and approved in writing by ENGINEER, CONTRACTOR shall assume responsibility of guarantee for plant in size as planted.
   c. ENGINEER must approve any substitutions.

B. Cover Crop
1. Cover Crop Seed mix for all restored areas shall be as follows:

SPECIES	% MINIMUM PURITY	% MINIMUM GERMINATION
Annual Oats	98	90
Winter Wheat	95	90
Barnyard Grass(*Echinochloa crus-galli*)	95	90

2. Seeding a cover crop by itself between April 15th & August 15th shall be conducted using Annual Oats at a rate of 120 lbs/acre.
3. Seeding a cover crop by itself between August 15th & November 30th shall be conducted using Winter Wheat at a rate of 90 lbs/acre.
4. Native seeding conducted between April 15th & June 15th shall include a cover crop of Annual Oats at a rate of 20 lbs/acre.
5. Native seeding conducted between October 15th & November 30th shall include a cover crop of Winter Wheat at a rate of 10 lbs/acre.
6. Native wetland seeding shall also include a cover crop of Barnyard Grass at a rate of 1 lb/acre.

C. Native Seed
1. Seed stock shall be wild ecotype indigenous to Wisconsin or have natural origins within a 250 mile radius of the intended planting site.
2. Grasses classified as "Agricultural Grasses" shall be PLS as specified. Other seed shall be "clean" according to high quality industry standards.
3. Seed shall not be more than one year old at time of seeding.
4. Legumes shall be inoculated with proper rhizobia immediately prior to planting (six hours or less).

D. Mesic Prairie and Wet Meadow Seed Mix species and quantities:

Mesic Prairie Planting Zone

Common Name	Species *Scientific Name*	PLS Ounces Required Per Acre
Forbs		
Nodding Pink Onion	*Allium cernuum*	5.9
Butterfly Weed	*Asclepias tuberosa*	3.2
Heath Aster	*Aster ericoides*	0.3
Smooth Blue Aster	*Aster laevis*	2.4
New England Aster	*Aster novae-angliae*	2.0
Purple Prairie Clover	*Dalea purpurea*	4.5
Showy Tick Trefoil	*Desmodium canadense*	6.1
Pale Purple Coneflower	*Echinacea pallida*	12.8
Purple Coneflower*	*Echinacea purpurea*	6.7
Rattle Snake Master	*Eryngium yuccifolium*	11.9
Round Headed Bush Clover	*Lespedeza capitata*	2.8
Ox-eye	*Heliopsis helianthoides*	7.1
Prairie Blazing Star	*Liatris pycnostachya*	4.1
Wild Bergamot	*Monarda fistulosa*	5.7
Wild Quinine	*Parthenium integrifolium*	3.8
Smooth Penstemon*	*Penstemon digitalis*	0.9
Yellow coneflower	*Ratibida pinnata*	5.2
Black-eyed Susan	*Rudbeckia hirta*	1.9
Brown -eyed Susan	*Rudbeckia triloba*	3.3
Stiff Goldenrod	*Solidago rigida*	4.3
Common Spiderwort	*Tradescantia ohiensis*	5.6
Culver's Root	*Veronicastrum virginicum*	0.3
Golden Alexanders	*Zizia aurea*	10.1
Grasses		
Big Bluestem	*Andropogon gerardii*	36.4
Side Oats Grama	*Bouteloua curtipendula*	45.5
Prairie Sedge	*Carex bicknellii*	10.7
Brown Fox Sedge	*Carex vulpinoidea*	1.8
Canada Wild Rye	*Elymus canadensis*	35.0

Switch Grass	*Panicum virgatum*		19.5
Little Bluestem	*Schizachyrium scoparium*		12.1
Indian Grass	*Sorghastrum nutans*		22.8
		TOTAL	**294.7**

***North American native species introduced into Wisconsin**

Wet Meadow Planting Zone

Common Name	**Species *Scientific Name***	**PLS Ounces Required Per Acre**
Forbs		
Canada Anemone	*Anemone canadensis*	4.6
Marsh Milkweed	*Asclepias incarnata*	7.6
Calico Aster	*Aster lateriflorus*	1.3
New England Aster	*Aster novae-angliae*	3.3
Common Beggars Tick	*Bidens frondosa*	4.4
Joe Pye Weed	*Eupatorium maculatum*	4.6
Boneset	*Eupatorium perfoliatum*	4.1
Sneezeweed	*Helenium autumnale*	7.6
Northern Blue Flag	*Iris versicolor*	7.0
Marsh Blazingstar	*Liatris spicata*	6.6
Great Blue Lobelia	*Lobelia siphilitica*	1.5
Obedient Plant	*Physotegia virginiana*	3.3
Common Mountain Mint	*Pycnanthemum virginianum*	2.0
Riddell's Goldenrod	*Solidago riddellii*	3.9
Blue Vervain	*Verbena hastata*	1.6
Ironweed	*Vernonia fasciculata*	3.0
Culver's Root	*Veronicastrum virginicum*	1.4
Golden Alexander	*Zizia aurea*	9.9
Grasses/Sedges/Rushes		
Big Bluestem	*Andropogon gerardii*	35.7
Canada Bluejoint	*Calamagrostis canadensis*	2.0
Bebb's Sedge	*Carex bebbii*	10.5
Crested Oval Sedge	*Carex cristatella*	2.3
Awl-fruited Sedge	*Carex stipata*	6.6
Brown Fox Sedge	*Carex vulpinoidea*	3.6
Virginia Wild Rye	*Elymus virginicus*	31.8
Fowl Manna Grass	*Glyceria striata*	8.1
Rice Cut Grass	*Leersia oryzoides*	5.4
Switch Grass	*Panicum virgatum*	31.8
Green Bulrush	*Scirpus atrovirens*	1.9
Wool Grass	*Scirpus cyperinus*	1.3
	TOTAL	**218.7**

2.2 PLANTING MATERIALS

A. Topsoil:
   1. Obtained from natural well drained areas, and be fertile, friable soil, clean of undesirable materials such as plants, weeds, roots, stalks, stones, and other debris.
   2. Existing topsoil shall be salvaged as it will be placed during restoration activities.
   3. Acidity range of pH 5.0 and pH 7.0 and shall contain no less than 4% organic matter as determined by loss on ignition of moisture free samples dried at 100°C.

B. Soil Amendments:
   1. Planting to be installed in native soils.

C. Water: CONTRACTOR shall make arrangements for water used for planting with appropriate water utilities. Cost of water usage is responsibility of CONTRACTOR and is incidental to contract.
   1. Obtain from fresh water sources and free from injurious chemical or other toxic substances harmful to plant life. No water, which is brackish, may be used.
   2. Provide hose and equipment necessary for proper watering of plant material.

2.3 EROSION CONTROL MATERIALS

A. Mulch:
   1. Straw:
      a. Oat or wheat straw shall be air-dried, free of noxious and invasive weed species including reed canary grass, and other objectionable foreign matter.
      b. Wet and/or moldy straw is not acceptable and shall be removed from the site by the CONTRACTOR.

B. Erosion Blanket & Stakes:
   1. Materials shall be completely biodegradable (Class I, Urban, Type A) and included on WisDOT PAL
   2. Anchoring devices shall be a minimum of 4” in length, be completely biodegradable (Urban) and included on WisDOT PAL

2.4 HERBICIDE, ADJUVANT & DYES

A. General:
   1. Use only chemicals approved by and registered with the Environmental Protection Agency (EPA).
   2. Chemicals used around water shall be aquatic approved.
   3. The chemical or combination of chemicals shall be chosen based on the target species present and the desired treatment outcome.

PART 3 - SUPPLIERS

3. 1 PLANT SUPPLIERS

A. At CONTRACTOR'S option, CONTRACTOR may contact the following companies for seed and plant supplies:

JFNew
708 Roosevelt Rd
Walkerton, IN 46574
(574) 586-2412

Taylor Creek Restoration Nursery
17921 Smith Road
PO Box 256
Brodhead, WI 53520
(608) 897-8641

Marshland Transplant Aquatic Nursery
116 East Huron Street
Berlin, WI 54923-2050
(800) AQUATIC

J&J Transplant Aquatic Nursery, LLC
PO Box 227
Wild Rose, WI 54984
(800) 622-5055

Prairie Nursery, Inc.
PO Box 306
Westfield, WI 53964
(800) 476-9453

Prairie Moon Nursery
32115 Prairie Lane
Winona, MN 55987
(866) 417-8156

Dragonfly Gardens
491 State Highway 46
Amery, WI 54001
(715) 268-7660

Hickory Road Gardens
2041 Hickory Road
Mosinee, WI 54455
(715) 693-6446

Stone Silo Prairie Garden
2325 Oak Ridge Circle
De Pere, WI 54115
(920) 336-1662

Agrecol, LLC
10101 North Casey Road
Evansville, WI 53536
(608) 223-3571

3.2 HERBICIDE SUPPLIERS

A. At CONTRACTOR'S option, CONTRACTOR may contact following companies for chemical supplies:

Crop Production Services
N125 County Highway C
DeForest, WI 53532
(608) 846-1100

Red River Specialties, Inc
7545 Haygood Road
Shreveport, LA 71107
(317) 440-7103

PART 4 - EXECUTION

4.1 PROJECT/SITE CONDITIONS

A. Inspection:
1. Prior to beginning Work, CONTRACTOR shall examine and verify acceptability of Project site for conditions under which seeding and planting are to be performed. Do not proceed with Work until satisfactory conditions are present.
2. Starting Work constitutes acceptance of conditions under which Work is to be performed. After such acceptances, CONTRACTOR shall be responsible for correcting unsatisfactory and defective Work resulting from such unsatisfactory conditions.
3. When landscape work is executed in conjunction with construction of other work, coordinate schedule to permit execution of landscape work.

4.2 SEEDING

A. Seedbed Preparation
1. Prior to seeding a cover crop or native species, the planting area shall be prepared through the following sequence:
   a. Topsoil shall be worked with a pulverizer, tiller, disc, or harrow to a depth of 1-2". The topsoil shall be free of heavy clay, refuse, stumps, large roots, rocks over 2 inches in diameter, weeds, or other extraneous material which would be detrimental to good seed-to-soil contact, and therefore seed establishment.
   b. The surface shall then be dragged or raked to provide a smooth, fine textured soil throughout the planting area. All debris (e.g., wood, rocks, garbage, etc.) shall be removed during final seedbed preparation.
   c. A temporary cover crop shall then be seeded. The species chosen and the rate utilized will follow the requirements per Paragraph 2.01 B. Seed shall be sown with a broadcast seeder and follow those guidelines found in Paragraph 4.02 C. Straw mulch may be applied to assist with cover crop establishment.
   d. Once the cover crop has grown to a height of 6-8", a series of three (3) or four (4) herbicide applications will be conducted throughout the growing season(s). A combination of Glyphosate and 2,4-D are to be utilized for each application and shall be applied at the rates recommended on the label for the vegetation species present. The first application is expected to be completed in late May to early June. The second and third applications are expected to be undertaken in late July and mid-September – prior to the first hard freeze. The schedule for herbicide applications will be flexible to accommodate the weather and existing growing conditions; however, the Contractor must communicate with the Owner and the Engineer prior to conducting any application. Incomplete, untimely or unsuccessful herbicide treatments may result in additional treatment requirements to be conducted at the Contractor's expense.
   e. Following the last herbicide application and prior to sowing the native seed the soil shall be lightly worked to a depth of ¼" – ½" in depth with a disc or harrow. If the soil is too light and fluffy, the area shall be cultipacked to provide a firmer seedbed prior to seeding.

B. Installation and Procedures:
   1. Seeding shall occur immediately after seedbed preparation. Restored areas shall be seeded with the native seed mixes at the PLS ounces per acre rate indicated in Paragraph 2.01 E. Seeding shall be conducted within the designated communities (Drawings) between October 15th and November 30th.
   2. All native seed species shall be mixed on-site prior to installation.
   3. If the communities are hand sown, the seed shall be mixed with a carrier (e.g., sawdust, vermiculite, moist sand, etc.) to ensure even seed distribution. If a broadcast seeder is utilized, it shall be properly calibrated to ensure an even seed distribution is achieved within the planting area.
   4. After the seed has been installed, the area shall be rolled to ensure good seed to soil contact.
   5. Once seed installation is complete, erosion blanket shall be placed in those areas designated on the Drawings. Mulch, if applied with the cover crop, and erosion blanket installation shall follow those requirements outlined in 4.05 below.

C. Seeding shall not be permitted during the following conditions unless otherwise approved:
   1. Saturated soil conditions.
   2. Frozen soil conditions.
   3. Wind speeds >15 miles per hour.
   4. Temperatures less than 32 degrees Fahrenheit.
   5. Temperatures greater than 90 degrees Fahrenheit.

4.3 EROSION CONTROL MATERIALS

A. Mulch
   1. General:
      a. Place clean, straw mulch on the cover crop seeding within 72 hours after seeding, if desired.
      b. Do not apply during high winds.
      c. Place loosely enough to allow some sunlight penetration and air circulation, but thickly enough to shade the ground, conserve moisture and reduce erosion.
   2. The CONTRACTOR shall perform mulching in accordance with “Method C” as explained in the “State Specifications:” State of Wisconsin Department of Transportation, “Standard Specifications for Highway and Structure Construction – Sections 627” current edition.

B. Erosion Blanket & Stakes
   1. General:
      a. Install Class I, Urban, Type A erosion blanket and biodegradable stakes on the slopes of the native seeding per Sheets 6 and 7 within 72 hours after seeding.
      b. Do not apply during high winds.
   2. The CONTRACTOR shall install the erosion blanket and stakes per manufacturer’s recommendations.

4. 4 CLEAN UP AND REPAIR

A. Remove excess and waste material daily.

B. Upon completion of planting, remove excess soil, stones, and debris and dispose of off-site.

C. CONTRACTOR shall be liable for any damage caused to surrounding properties as a result of negligence when conducting landscape installation. Damage to existing landscape, pavements, or other site features as result of Work shall be repaired to its original condition.

4. 5 PRELIMINARY ACCEPTANCE

A. Notify ENGINEER at conclusion of planting and seeding operations so OWNER and ENGINEER can determine completion by field inspection.

B. Completion requires:
1. Seed and plant material conforms to Contract Documents with respect to quantity, quality, size, species, and location, except those items accepted or revised in the field by OWNER and ENGINEER.
2. Plant material shall be established, upright, green (i.e., healthy condition), and exist in the locations as determined by the OWNER and ENGNEER.

4.6 MAINTENANCE DURING WARRANTY PERIOD

A. General:
1. CONTRACTOR shall provide maintenance during the two-year warranty period in accordance with the submitted and approved Maintenance Plan.
2. Repair work necessitated by CONTRACTOR'S operations, land disturbance outside designated work areas, CONTRACTOR'S failure to perform adequate maintenance or due to CONTRACTOR'S negligence shall be performed without cost to OWNER.
3. Any soil erosion resulting from inadequate cover crop or permanent seed establishment shall be corrected at the CONTRACTOR'S expense.

B. Protection:
1. CONTRACTOR is liable for damage to planted areas caused by deicing compounds, toxic substances, fertilizers, pesticides, and other materials applied by CONTRACTOR. CONTRACTOR is not liable for materials applied by others or damage caused by vandalism or natural causes.
2. Protect landscape Work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection until completion and acceptance.
3. Protect existing property and improvements within these sites and those adjacent to OWNER'S property.

4. 7 WARRANTY

A. During the 1-year warranty period CONTRACTOR shall re-seed areas with poor germination to meet the following criteria:
   1. Seeding success criteria – An area will be considered satisfactory if it meet the following:
      a. A minimum of 75% total native vegetative coverage.
      b. No bare areas larger than 10 square feet.
      c. Vegetation is in healthy condition.
   2. 90% of the installed plants are living and healthy.

B Replacement and Damages:
   1. On or about expiration of the 1 warranty period, follow-up inspections will be made to determine replacements or corrections required to be made by CONTRACTOR in accordance with provisions of these Specifications and the Maintenance Plan. ENGINEER will document findings in field report, and forward copies to CONTRACTOR. Items identified for replacement will be tagged during inspection with plastic flagging. Decision of OWNER and ENGINEER for required replacements is final and binding upon CONTRACTOR.
   2. CONTRACTOR is responsible for repairing damage to property caused by defective workmanship and materials.

C. Exclusions:
   1. CONTRACTOR is not liable for replacement cost of seeds damaged by extreme weather conditions. CONTRACTOR is not liable for plants not installed by CONTRACTOR under CONTRACTOR'S supervision, by relocation or removal by others, by acts of God, or by vandalism, and losses because of curtailment of water by local authorities.

4.8 REPLACEMENTS

A. General Procedure
   1. Reseeding shall be performed at the CONTRACTOR’S expense and in conformance with the original seeding and planting specifications unless they are modified by the ENGINEER.
   2. Seed shall be of the same species, quality, and size as originally installed, or with substitutes pre-approved in writing by the ENGINEER.
   3. Reseeding activities shall be conducted during the first available period, as determined by the OWNER and ENGINEER.
   4. Dispose of dead plants off-site.
   5. Restore areas damaged by replacement operations to original condition.
   6. Notify OWNER and ENGINEER at conclusion of replacement program
   7. OWNER and ENGINEER will conduct inspection of replacements for determining final acceptance.

4.9 FINAL ACCEPTANCE

A. Procedure
   1. Upon completion of replacement program, CONTRACTOR shall notify OWNER and ENGINEER.
   2. OWNER and ENGINEER will inspect the site to determine acceptability of required replacements.
   3. If acceptable and the warranty criteria outlined in 4.09.A.1.&2. are met, OWNER and ENGINEER shall notify CONTRACTOR, in writing, of final acceptance of Work.
   4. After acceptance, OWNER will be responsible for all future replacements and maintenance.

END OF SECTION

SECTION 33 00 02 SP

PVC PIPE AND FITTINGS - SPECIAL

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Update to this Section of the City of De Pere 2025 Standard Specifications under 2.1.A.1. for Mainline Gravity Sewer and Sewer Services revised b. and addition of c.

PART 2 – PRODUCTS

2.1 NON-PRESSURE RATED PIPE

A. Mainline Gravity Sewer and Sewer Services
   1. Pipe fittings and repair couplings shall be manufactured and tested in accordance with the following standards:
      b. Sizes 18 inch through 48 inch and depths up to 20 feet: ASTM F679, PS46, T-1 minimum cell classification.
      c. Sizes 18 inch through 48 inch and depths from 20 feet to 40 feet: ASTM F679, PS115, T-1 minimum cell classification.

END OF SECTION

SECTION 33 31 00.1SP

SANITARY SEWER SYSTEMS – GBMSD – SPECIAL

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Green Bay Metropolitan Sewerage District Special Provisions for the 24" sanitary sewer interceptor and manholes.
   2. The intent of this Special Provision is to provide additional requirements or modify City of De Pere Department of Public Works 2025 Standard Specifications (City Specification). This section does not replace the City Specifications. In the event of conflicting requirements, this Special Provision shall take precedence over the City Specifications, but is only applicable to the 24" GBMSD sanitary sewer interceptor and manholes.
   3. The Special Provisions amend or supplement the City Specifications. All provisions that are not so amended or supplemented remain in full force and effect. The Special Provision is set up to follow the numbering in the City Specification Section 33 31 00. Refer to Section 33 31 00 for sanitary sewer information not covered in this Special Provision.

1.2 REFERENCES

A. Standard Specifications for Sewer & Water Construction in Wisconsin

1.3 SUBMITTALS

A. Quality control test results.

B. Product data for external manhole surface sealant

C. Table of manufacturer's recommended mandrel sizes for 3% or 5% deflection cases based on diameter and wall thickness of pipe provided for this project.

D. Miscellaneous Submittals
   1. Proposed plan for bypassing sewage during construction.
   2. Emergency plan detailing procedures to be followed in event of pump failures, sewer overflows, service backups, and sewage spillage. Maintain copy on site for duration of project.

PART 2 –PRODUCTS

2.1 NON-PRESSURE RATED PIPE

A. Mainline Gravity Sewer and Sewer Services
1. Pipe fittings and repair couplings for the 24" sanitary sewer shall be manufactured and tested in accordance with ASTM F679, PS115, T-1 minimum cell classification.

2.2 MANHOLE

A. Precast Reinforced Concrete Manholes
1. Adjusting Rings
a. Precast concrete minimum of 4 inches thick EACH
b. Rubber: Infra-Riser or approved equal
c. Polypropylene: PRO-RING as manufactured by Cretex Companies
d. Sealed to manhole structure, casting, and one another by means of sealant recommended by ring manufacturer
2. Joints between components:
a. Exterior joint collar
i. Products:
a) EZ Wrap as manufactured by Press-Seal Gasket Corporation
b) Or Equal
3. Connector between precast reinforced manhole structure shall be A-Lok gaskets.

B. Manhole Steps
1. Do not provide steps for GBMSD manholes. All sanitary manholes for this project are GBMSD manholes.

C. Flexible Connection for Existing Manholes
1. Where an existing manhole is core drilled in the field, the flexible connector shall be Kor-N-Seal, no substitutes

D. Castings
1. Neenah R-1650-LM with Type C cover
2. Provide ball and socket hinge plug with frame and lid
3. Cover shall secure to the frame using three (3) Type E locking devices with flat head hex socket screw with pins
4. No vent holes
5. Cover shall be lettered "GBMSD" in block letters in accordance with GBMSD's standard pattern on file with Neenah Foundry, Inc,
6. Lettering shall be of recessed design

E. Exterior Surface Sealing
1. Moisture-cured urethane
2. Product:
a. MC-Tar 100 as manufactured by Wasser Corporation

b. Or equal

F. Exterior Manhole Chimney Seal
   1. Coal epoxy coating
      a. Products:
         i. EZ-Stik #3 Butyl Joint Sealant as manufactured by Press-Seal Gasket Corporation
         ii. Or equal
   2. Polyethylene wrap
      a. Conforming to Chapter 8.21.0 of the "Standard Specifications for Sewer and Water Construction in Wisconsin"
      b. 8 mil thickness

2.3 TRACER WIRE

A. Color: Green

2.4 TRENCH STABILIZATION MATERIALS

A. Coarse Aggregate
   1. ASTM C33 – Size No.2.

B. Filter Fabric – porous non-woven fabric with multiple layers of randomly arranged fibers, min 4.0 ounce per square yard (typical)
   1. Manufacturers
      a. Mirafi 140N by Mirafi, Inc.
      b. Typar 340I by DuPont
      c. Supac 5P by Phillips Fibers Corp.
      d. Propex 4545 by Amoco Fabric Co.
      e. Or Equal.

PART 3 – EXECUTION

3.1 GRAVITY SEWER INSTALLATION

A. Manholes
   1. General Installation Requirements
      a. The maximum amount of adjusting rings is eight inches
   2. Detailed Installation
      a. Manhole adjusting
         i. No more than ONE concrete ring (minimum 4-inch) on top of the cone section
         ii. For manholes in pavement, provide ½-inch through 4-inch rubber or expanded polypropylene tapered rings to match the slope of the pavement
         iii. The maximum amount of adjusting rings is eight inches
      b. Provide casting fame and cover as specified in this Special Provision for each manhole

i. Frame shall bolt down to structure / adjustment rings using three (3) ¾-inch Type 304 stainless steel bolts using every other of the 6 1 1/8-inch anchor bolt holes in the frame.

3. Coating Installation
   a. Exterior Surface Sealing
      i. Coat exterior surface of manhole in accordance with the manufacturer's written instructions and the following:
         a) Number of coats: 2
         b) Minimum coat thickness: 5 mil
         c) Total minimum thickness: 10 mils
4. Sealants
   a. Joints between components
      i. All manhole riser section joints shall be constructed with an exterior joint collar, installed according to the manufacturer's recommendations.
   b. Exterior manhole chimney seal
      i. Apply the coal epoxy coating a minimum of ¼-inch thick
      ii. Apply the polyethylene wrap over the entire outside surface of the manhole chimney
      iii. The exterior manhole chimney seal shall cover all of the adjusting rings and overlap both the manhole cone and manhole frame a minimum of 6 inches.

B. Sewer Services
   1. Service Branches:
      a. New Sewers: Install Inserta Tee connectors following manufacturer's instructions.
      b. Contractor shall provide PVC core to Field Engineer.

3.2 TRACER WIRE

A. The wire shall be placed along the entire length of the sewer pipe and taped to the top of the pipe at 6 ft intervals.

B. Terminate tracer wire in manholes at joint between manhole cone and first adjustment ring. Cut slot in cone for wire. Provide a minimum of 18 inches of wire inside the manhole.

3.3 FIELD QUALITY CONTROL

A. Sewer testing and televising
   1. Cleaning and televising required after installation. Televising while sewer is in operation is acceptable
   2. Lamping not required
   3. Deflection test shall utilize mandrels sized for 3% allowable deflection when mandrel test is completed within 30 days of installation. If mandrel test is completed after 30 days from installation date, the deflection test shall utilize mandrel sized for 5% allowable deflection.

B. Manhole Testing
   1. Test manholes for leaking using Vacuum Testing in accordance with ASTM C1244.
   2. Test epoxy coating thickness during application with wet gauge thickness.
      a. Conform to ASTM D4414
   3. Inspect coating with high-voltage holiday system.
      a. Provide induced holiday to calibrate minimum/maximum voltages to be used.
      b. Set spark tester at 100 volts/ 1 mil of film thickness.
      c. Mark detected holidays and repair by abrading coating or barrier surface with grit disk paper or other hand tooling methods.
      d. Clean holiday areas and hand-apply coating or barrier material until minimum thickness requirements met.
      e. Measure bond strength of coating, at locations selected by ENGINEER, and in accordance with ASTM D4541.
         i. Repair areas with bond to concrete strength less than 300 psi.

3.4 TRENCH STABILIZATION

A. Installation
   1. Remove unsuitable material from within trenches.
   2. Stabilize trench bottom and replace unsuitable materials with Coarse Aggregate.
   3. Place geotextile fabric on top of unstable subgrade materials prior to placing coarse aggregate. Sufficient geotextile fabric shall be used to completely enclose foundation materials and pipe

END OF SECTION

APPENDIX A

City of De Pere – 2024 Soil Boring

Prepared by: ECS Midwest, LLC

ECS Midwest, LLC

Geotechnical Engineering Report

City of De Pere – 2024 Soil Boring

Fox River State Trail
Randall Avenue
Oakdale Avenue
Merrill Street
Pleasant Place
South of American Boulevard
Brown County Fairground
City of De Pere, Brown County, Wisconsin

ECS Project No. 59:4272

December 27, 2024

December 27, 2024

Mr. Eric Rakers
City Engineer
City of De Pere
925 S Sixth Street
De Pere, WI 54115

Cc: Chase K Kuffel
City of De Pere
Email: ckuffel@mail.de-pere.org

ECS Project No. 59:4272

Reference: Geotechnical Engineering Report
City of De Pere – 2024 Soil Boring
Fox River State Trail, Randall Avenue, Oakdale Avenue, Merrill Street, Pleasant Place, South of American Boulevard, and Brown County Fairground
City of De Pere, Brown County, Wisconsin

Dear Mr. Rakers:

ECS Midwest, LLC (ECS) has completed the subsurface exploration for the above-referenced project. Our services were performed in general accordance with our agreed to scope of services. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing.

It has been our pleasure to be of service to the City of De Pere during the design phase of this project. We would appreciate the opportunity to provide our services during construction phase operations to verify subsurface conditions anticipated for this report. Should you have questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

ECS Midwest, LLC

Bridget Zabel

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Principal Engineer
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TABLE OF CONTENTS

APPENDICES

Appendix A – Drawings and Reports

- Site Location Diagram
- Boring Location Diagrams
- Subsurface Cross-Sections
- Soil Survey Maps

Appendix B – Field Operations

- Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
- Reference Notes for Boring Logs
- AASHTO Soil Classification System
- Boring Logs

Appendix C – Supplemental Report Documents

- Important Information About This Geotechnical-Engineering Report

EXECUTIVE SUMMARY

The following summarizes the main findings of the exploration, particularly those that may have a cost impact on the planned improvements. Information gleaned from the Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- The subsurface profile encountered at the boring locations generally consisted of an asphalt pavement section with gravel base course or topsoil layer at the surface overlying glacial till or lacustrine soils, which extended to the terminal depth of the borings. An exception to this profile occurred in Boring B-03, B-12, and B-19 because these borings encountered an existing fill stratum below the surface layer.

- Boring B-06, B-12, and B-13 encountered a groundwater level at a depth of between 7.5 and 17 feet below the existing grade. None of the other borings contained a measurable groundwater level.

1.0 INTRODUCTION

ECS prepared this report for the purpose of providing the results of our subsurface exploration for the City of De Pere – 2024 Soil Boring project. The project information was supplied by Mr. Eric Rakers, City Engineer for the City of De Pere.

ECS provided services in accordance with our Proposal No. 59:5786-GP, dated January 30, 2024, as authorized by Mr. Anthony Wachewicz on March 20, 2024, which includes our Terms and Conditions of Service.

This report contains the procedures and results of our subsurface explorations for the design and construction for the project.

The report includes the following items:

- A brief review and description of our field test procedures and results.
- A review of the observed surface topographical features and site conditions.
- A review of area and site geologic conditions.
- A review of subsurface soil/rock stratigraphy with pertinent available physical properties.
- Final test boring logs.

Our scope for this project did not include providing geotechnical recommendations for utility or pavement construction. Our scope also did not include sampling, testing, or evaluations for environmental purposes.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE/PAST SITE USE

The project sites are located within the City of De Pere, Brown County, Wisconsin. Specifically, the sites are located at the following locations:

- ***Fox River State Trail*** – Directly across from Ridgeway Boulevard (Boring B-01).
- ***Oakdale Avenue and Randall Avenue*** – 937 Oakdale Avenue and 435 Randall Avenue (Borings B-02 and B-03 respectively).
- ***Merrill Street*** – 514 South Erie St., 509 South Huron Street, 603 South Michigan Street (Borings B-04, B-05, and B-06 respectively).
- ***Pleasant Place*** – 205 Pleasant Place (Boring B-07).
- ***South of American Boulevard*** – In an agricultural field (Borings B-08 through B-17).
- ***Brown County Fairground*** – 1500 Fort Howard Avenue (Borings B-18 through B-20).

The site locations are shown in the figure below and on the *Site Location Diagram* in Appendix A of this report:

Site Locations (approximately outlined in red)

The vicinity of the project sites generally consisted of urban residential neighborhoods, a school, a state trail, an industrial business park, agricultural field, and county fairground. The existing street sites generally consisted of urbanized, two-lane, asphalt paved roadways with at-grade intersections, driveway aprons, parking lanes, concrete curb and gutter, sidewalk, groomed lawn terraces, and municipal utilities.

ECS interpreted site specific topography using the Brown County interactive GIS map (https://www.browncountywi.gov/maps/) to estimate the existing site grade elevations. We understand the elevations to be referenced to Mean Sea Level. According to the Brown County interactive map, we anticipate the existing site grade elevations for the Fox River State Trail site to range from approximately EL. +584 feet to EL. +585 feet above Mean Sea Level (MSL), the Oakdale Avenue and Randall Avenue site to range from approximately EL. +604 feet to EL. +607 feet MSL, the Merrill Street site to range from approximately EL. +611 feet to EL. +618 feet MSL, the Pleasant Place site to range from approximately EL. +605 feet to EL. +609 feet MSL, the South of American Boulevard site to range from approximately EL. +637 feet to EL. +642 feet MSL, and the Brown County Fairgrounds site to range from approximately EL. +604 feet to EL. +606 feet MSL.

Our visual review of historical aerial photographs of the subject site obtained from Google Earth dating from 1985 to 2024 detail the sites past and current conditions. Each of the sites, with exception for the South of American Boulevard site, has remained relatively the same as current site conditions since at least 1985. The South of American Boulevard site appeared to have a new subdivision constructed to the northwest of the site sometime between 2018 and 2024, and a new warehouse and the extension of American Boulevard sometime between 2021 and 2024. The site has remained relatively the same as current site conditions since the construction of the subdivision and warehouse.

2.2 PROPOSED CONSTRUCTION

ECS understands the project includes subsurface exploration for the planning and design of municipal utility and street construction projects.

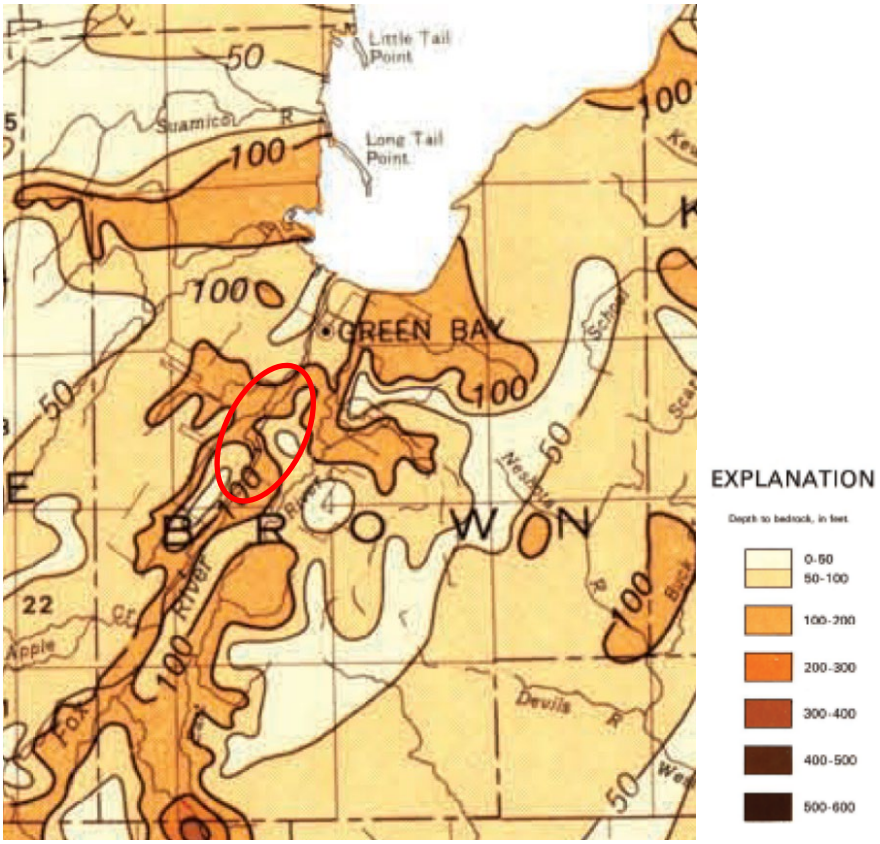
3.0 FIELD EXPLORATION AND LABORATORY TESTING

The exploration procedures are explained in greater detail in Appendix B including the insert titled "Subsurface Exploration Procedures." On December 13 through December 19, 2024, ECS advanced twenty (20) Standard Penetration Test (SPT) soil borings to a depth of approximately 5 to 27 feet below the existing grade. City of De Pere personnel selected the general boring locations and depths. City of De Pere personnel located the borings at the site. The approximate boring locations are shown on the Boring Location Diagram in Appendix A.

A licensed surveyor did not determine the ground surface elevation at the test boring locations, so the elevations are approximate and may not be appropriate for final design and construction. ECS estimated the surface elevation at the boring locations to the nearest 1 foot using the Brown County Land Information Office interactive map interval contours. We anticipate the contour elevations to be referenced to the North American Vertical Datum of 1988 (NAVD-88). The estimated surface elevation at each boring location can be found on the test boring logs included in Appendix B.

3.1 SUBSURFACE CHARACTERIZATION

According to the University of Wisconsin Extension Geological and Natural History Survey and U.S. Geological Survey[1,2] the site of the proposed construction lies above Phanerozoic bedrock of Paleozoic age within the Ordovician System consisting of sedimentary rocks. The bedrock formation generally lies within the Sinnipee Group (Os), which consists of dolomite with some limestone and shale, and includes the Galena, Decorah, and Platteville Formations. The soil overburden in the general project area ranges from 0 feet to 200 feet thick. The depth to bedrock profile[2] is illustrated in Figure 1 below with the approximate site location marked with a red circle.



(Figure 1 – Depth-to-Bedrock Brown County, WI)

According to the Soil Survey from the USDA - Natural Resources Conservation Service (websoilsurvey.nrcs.usda.gov), which provides soil information to a shallow depth (generally less than 5 feet), the near surface soils within the alignments are generally mapped as Dumps (Du), Bellevue silt loam, 0 to 2 percent slopes, frequently flooded (Bc), Kewaunee silt loam, 2 to 6 percent slopes, eroded (KhB2), Manawa silty clay loam, 0 to 3 percent slopes (McA), Oshkosh silty clay loam, 0 to 2 percent slopes (OsA), Oshkosh silty clay loam 2 to 6 percent slopes (OsB), Oshkosh silt loam, 2 to 6 percent slopes (OnB), Oshkosh silt loam, 6 to 12 percent slopes, eroded (OnC2), Oshkosh silt

[1] Trotta, L.C. and Cotter, R.D. *Depth to Bedrock in Wisconsin*. University of Wisconsin Extension Geological and Natural History Survey, U.S. Geological Survey, USGS, 1973.

[2] Mudrey, M.G., Brown B.A., and Greenburg, J.K. *Bedrock Geologic Map of Wisconsin*. University of Wisconsin Extension Geological and Natural History Survey, 1982.

loam, 12 to 20 percent slopes, eroded (OnD2), Poygan silty clay loam, 0 to 2 percent slopes, occasionally ponded, drained (Po). Soil maps of the project site are presented in Appendix A. These soil types are described with the following properties:

- **Dumps (Du)** –Fill land with various soil types and refuse. This soil type is likely mapped within the areas of the Fox River State Trail site, but not at the boring location.

- **Bellevue silt loam, 0 to 2 percent slopes, frequently flooded (Bc)** – Flood plains landform with a parent material of stratified loamy alluvium. These soils are generally moderately well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Brown County Fairground site, but at none of the boring locations.

- **Kewaunee silt loam, 2 to 6 percent slopes, eroded (KhB2)** – Ground moraines landform with a parent material of loess over clayey till. These soils are generally well drained, classified as being in Hydrologic Soil Group D, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Pleasant Place site but not at the boring location.

- **Manawa silty clay loam, 0 to 3 percent slopes (McA)** – Drainageways landform with a parent material of clayey till. These soils are generally somewhat poorly drained, classified as being in Hydrologic Soil Group C/D, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Fox River State Trail site within the area of Boring B-01, and the South of American Boulevard site within the areas of Borings B-08 and B-13.

- **Oshkosh silty clay loam, 0 to 2 percent slopes (OsA)** – Glacial lakes landform with a parent material of silty loess over clayey lacustrine deposits. These soils are generally well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the South of American Boulevard site within the areas of Borings B-09 and B-17.

- **Oshkosh silty clay loam, 2 to 6 percent slopes (OsB)** – Glacial lakes landform with a parent material of silty loess over clayey lacustrine deposits. These soils are generally well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the South of American Boulevard site, but at none of the boring locations.

- **Oshkosh silt loam, 2 to 6 percent slopes (OnB)** – Glacial lakes landform with a parent material of silty loess over clayey lacustrine deposits. These soils are generally well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Oakdale Avenue and Randall Avenue site within the areas of Borings B-02 and B-03, the Merrill Street site within the areas of Borings B-04, B-05, and B-06, the South of American Boulevard site within the area of Boring B-14, and the Brown County Fairground site within the areas of Borings B-18, B-19, and B-20.

- **Oshkosh silt loam, 6 to 12 percent slopes, eroded (OnC2)** – V-shaped valleys landform with a parent material of loess over clayey lacustrine deposits. These soils are generally well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Fox River State Trail site but not at the boring location, the Oakdale Avenue and Randall Avenue site but at none of the boring locations, and the Brown County Fairground site but at none of the boring locations.

- **Oshkosh silt loam, 12 to 20 percent slopes, eroded (OnD2)** – V-shaped valleys landform with a parent material of loess over clayey lacustrine deposits. These soils are generally well drained, classified as being in Hydrologic Soil Group C, and have a moderate potential for frost action. This soil type is likely mapped within a portion of the Pleasant Place site within the area of Boring B-07.

- **Poygan silty clay loam, 0 to 2 percent slopes, occasionally ponded, drained (Po)** – Depressions landform with a parent material of silty and clayey till. These soils are generally poorly drained, classified as being in Hydrologic Soil Group C/D, and have a high potential for frost action. This soil type is likely mapped within a portion of the South of American Boulevard site within the areas of Borings B-10, B-11, B-12, B-15, and B-16.

The encountered subsurface conditions in the borings appeared consistent with published geological mapping except for the undocumented fill in Borings B-03, B-12, and B-19. A graphical presentation of the generalized subsurface conditions is shown on the Subsurface Cross-Section diagrams included in Appendix A. For subsurface information at a specific test boring location, refer to the boring logs in Appendix B. The following Table provides generalized characterizations of the soil strata encountered during our subsurface exploration:

APPROXIMATE SUBSURFACE STRATIGRAPHY			
Approximate Depth Increment of Stratum (feet)	**Stratum No.**	**Material Description**	**Range of SPT(1) N-values (bpf)**
0 – 1.38 (Surface cover)	N/A	Approximately 1.5 to 6.0 inches of **asphalt pavement** over 6.0 to 12.0 inches of **gravel base course** or 1.0 to 6.0 inches of **topsoil**.	N/A
0.08 – 2.0	I	**FILL:** stiff SANDY CLAY WITH GRAVEL (CL) [A-6] Present in Boring B-03, stiff ORGANIC LEAN CLAY (OL) [A-8] Present in Boring B-12, and hard ORGANIC LEAN CLAY (OL) [A-8] Present in Boring B-19.	8 - 13
0.08 – 27.0 (End of Boring)	II	**Lacustrine:** soft to very stiff LEAN CLAY (CL) [A-6], stiff SILTY CLAY (CL/ML) [A-6] and loose to medium dense SILTY SAND (SM) [A-2-4], medium dense CLAYEY SAND WITH GRAVEL (SC) [A-2-4]. **Glacial Till:** soft to very hard LEAN CLAY (CL) [A-6], very hard LEAN CLAY WITH GRAVEL (CL) [A-6].	3 – 50+

Notes: (1) Standard Penetration Test.
(2) Estimated from calibrated hand penetrometer.

Auger refusal occurred in Boring B-01 at a depth of 5.1 feet below the existing grade on an unknown obstruction. The drill crew offset Boring B-01A approximately 3 feet southwest of Boring B-01 and drilled past the obstruction to the planned terminal depth of the boring. A 5-foot rock core run advanced into the obstruction at Boring B-01 would be required to document if refusal occurred on a bedrock formation, boulder, or other obstruction.

The soil stratification shown on the boring logs represents the interpreted soil conditions at the actual boring locations. Variations in the stratification can occur between sample intervals and boring locations. The subsurface conditions at other times and locations on the site may differ from those found at the boring locations. If different site conditions are encountered during construction, ECS should be contacted to review our recommendations relative to the new information.

Because of the limitations of the split-spoon sampler, which has a 1⅜-inch inside diameter, the soil classifications noted on the boring logs may not be representative of the entire soil matrix. Materials larger than the 1⅜-inch inside diameter of the split-spoon sampler cannot be collected and observed directly. Where possible, the drill crew noted the estimated depth of larger diameter materials, such as cobbles, based on things such as changes in the observed drilling resistance and auger cuttings.

3.2 GROUNDWATER OBSERVATIONS

The drill crew observed the boreholes for a measurable groundwater level during and at the completion of drilling operations. The observed groundwater levels are noted on the boring logs in Appendix B and the following table summarizes the depth to a measurable groundwater level observed in the boring locations:

GROUNDWATER OBSERVATIONS DURING/AFTER DRILLING ACTIVITIES		
Boring No.	**Depth to Groundwater Below Existing Grade (feet)**	
	During Sampling	**After Drilling**
B-01	None	None
B-02	None	None
B-03	None	None
B-04	None	None
B-05	None	None
B-06	10	17
B-07	None	None
B-08	None	None
B-09	None	None
B-10	None	None
B-11	None	None
B-12	7.5	None
B-13	13	15.7
B-14	None	None
B-15	None	None
B-16	None	None
B-17	None	None
B-18	None	None
B-19	None	None
B-20	None	None

The site likely contains areas of seasonal perched groundwater overlying a saturated (water table) aquifer. Perched groundwater is distinguished differently from the saturated (water table) aquifer. The following definition can be referenced:

> *"Perched water is typically of limited quantity, replenished or recharged very slowly. When encountered in an excavation, perched water will typically drain off very quickly, with limited continuous flow or bleeding, unless a source of recharge, such as a leaking utility is present."*
> From: *Construction Dewatering and Groundwater Control – New Methods and Applications, 3rd Addition*

A water table aquifer is distinguished from a perched groundwater table based on the water table aquifer's recharge ability, which may be limitless but can be lowered temporarily through adequate dewatering techniques such as deep wells and well points. Perched groundwater is often alleviated in excavations by pumping from sump pits and French drains.

The highest groundwater observations are normally encountered in late winter and early spring and the observed groundwater levels in the borings likely differ from the seasonal maximum water table. In addition, variations in both perched groundwater and the groundwater table aquifer can occur because of seasonal variations in precipitation, evaporation, surface water runoff, lateral drainage conditions, construction activities, and other factors. The time of year and the weather history during the advancement of the borings should be considered when estimating groundwater levels at other points in time.

3.3 LABORATORY SERVICES

ECS performed classification and index property tests on representative soil samples obtained from the test borings to aid classification of the soils, and to estimate engineering properties. The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposal.

A geotechnical engineer visually classified each collected soil sample from the test borings based on texture and plasticity using ASTM D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures),* ASTM D2487 *Standard Practice for Classification for Engineering Purposes (Unified Soil Classification System (USCS)),* and the American Association of State Highway and Transportation Officials (AASHTO) Soil Classification System as a guide. After classification, the geotechnical engineer grouped the various soil types into the major zones noted on the test boring logs in Appendix B of this report. The USCS group symbols for each soil type are indicated in parentheses along with the soil descriptions on the test boring logs. The bracketed text noted on the boring logs after the USCS group symbols indicates the AASHTO Classification. The stratification lines designating the interfaces between earth materials on the logs are approximate; in-situ, the transitions may be gradual.

4.0 CLOSING

ECS has prepared this report to guide the geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation expressed or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS by the City of De Pere Public Works Department. If this information is inaccurate or changes, either because of our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted so we can review and provide additional or alternate recommendations that reflect the proposed construction.

Field observations, and quality assurance testing during earthwork, utility, and pavement installation are an extension of, and integral to, the geotechnical design. We recommend that ECS be retained to apply our expertise throughout the geotechnical phases of construction, and to provide consultation and recommendation should issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

Appendix A - Drawings and Reports

Site Location Diagram

Boring Location Diagrams

Subsurface Cross-Sections

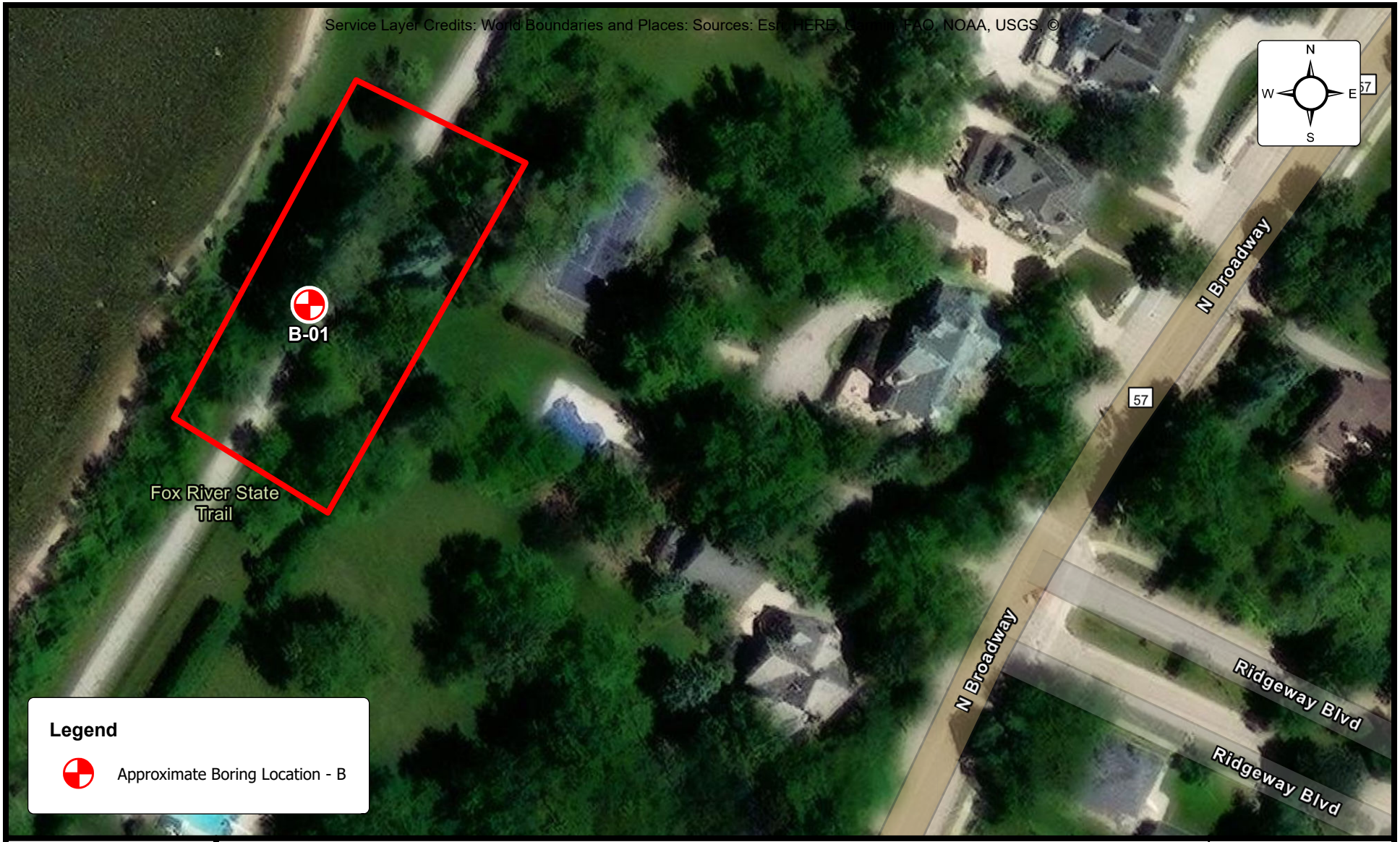
Soil Survey Maps

SITE LOCATION DIAGRAM

2024 Soil Boring

De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	1" = 1mi
PROJECT NO.	59:4272
SHEET	
DATE	11/25/2024



BORING LOCATION DIAGRAM

2024 Soil Boring

Fox River State Trail, De Pere, Wisconsin
City of De Pere

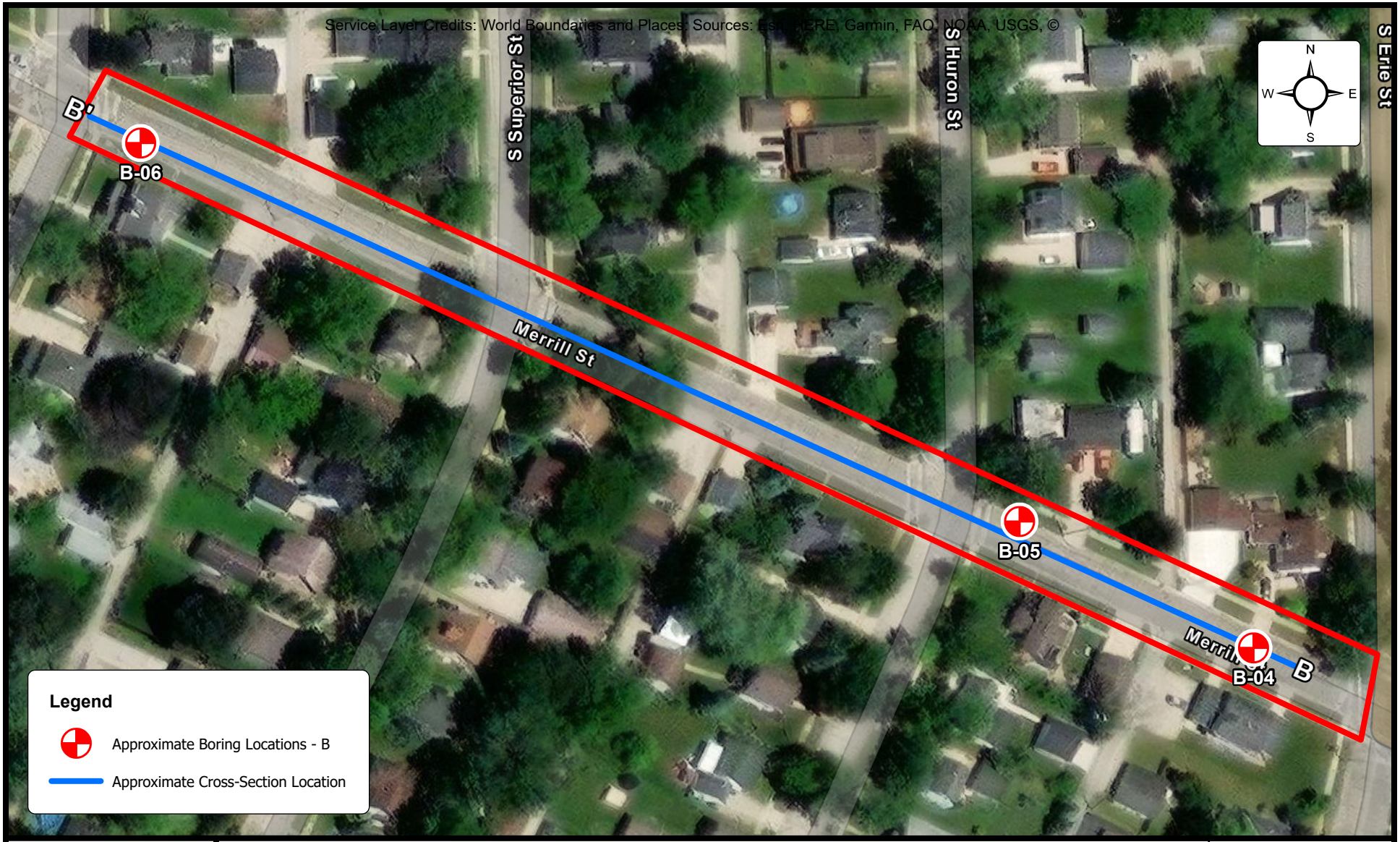
ENGINEER	BNZ
SCALE	1" = 80'
PROJECT NO.	59:4272
SHEET	
DATE	11/25/2024

BORING LOCATION DIAGRAM

2024 Soil Boring

Oakdale Avenue and Randall Avenue, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	1" = 150'
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024



BORING LOCATION DIAGRAM

2024 Soil Boring

Merrill Street, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	1" = 100'
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

BORING LOCATION DIAGRAM

2024 Soil Boring

Pleasant Place, De Pere, Wisconsin
City of De Pere

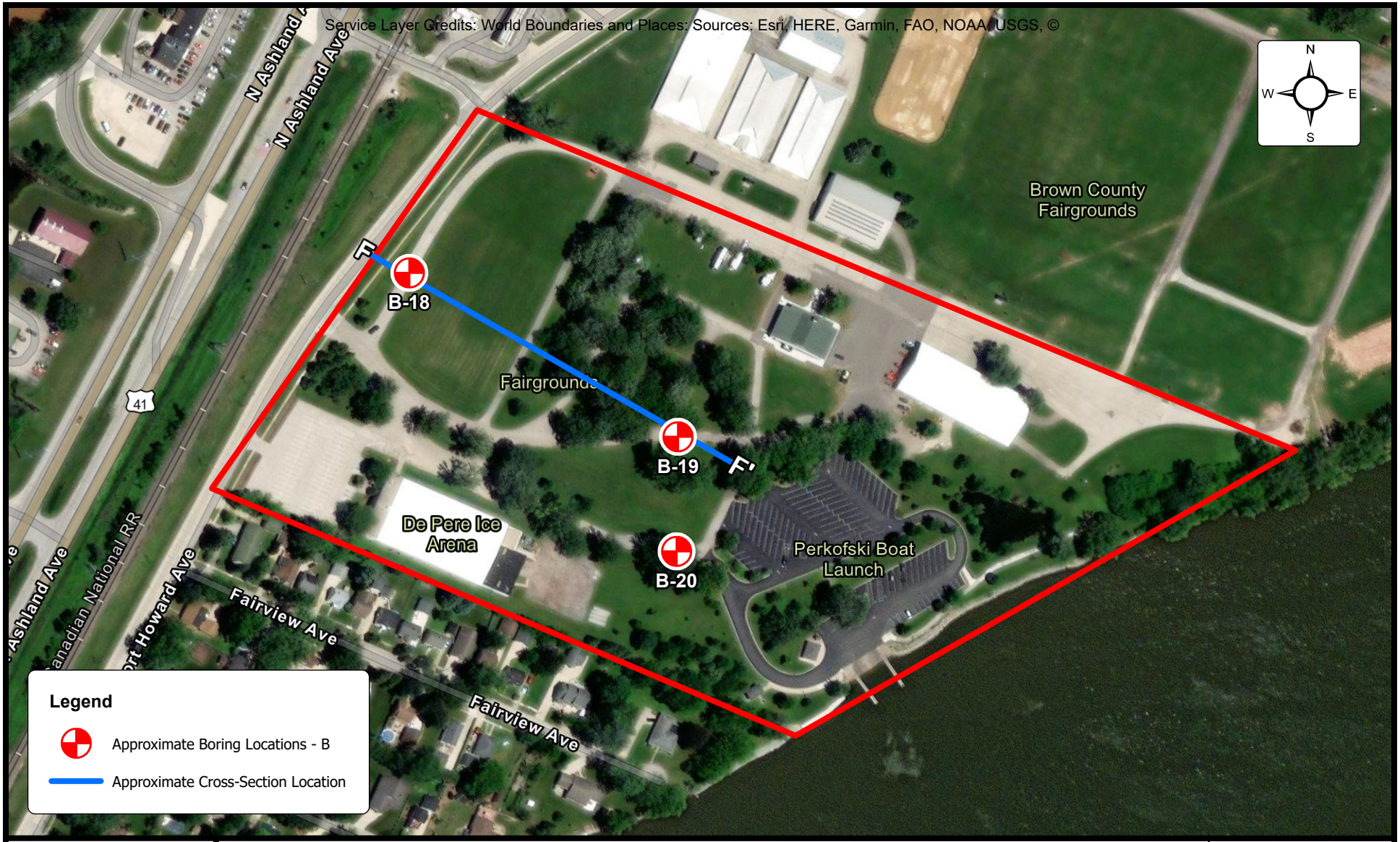
ENGINEER	BNZ
SCALE	1" = 80'
PROJECT NO.	59:4272
SHEET	
DATE	11/25/2024

BORING LOCATION DIAGRAM

2024 Soil Boring

South of American Boulevard, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	1" = 400'
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

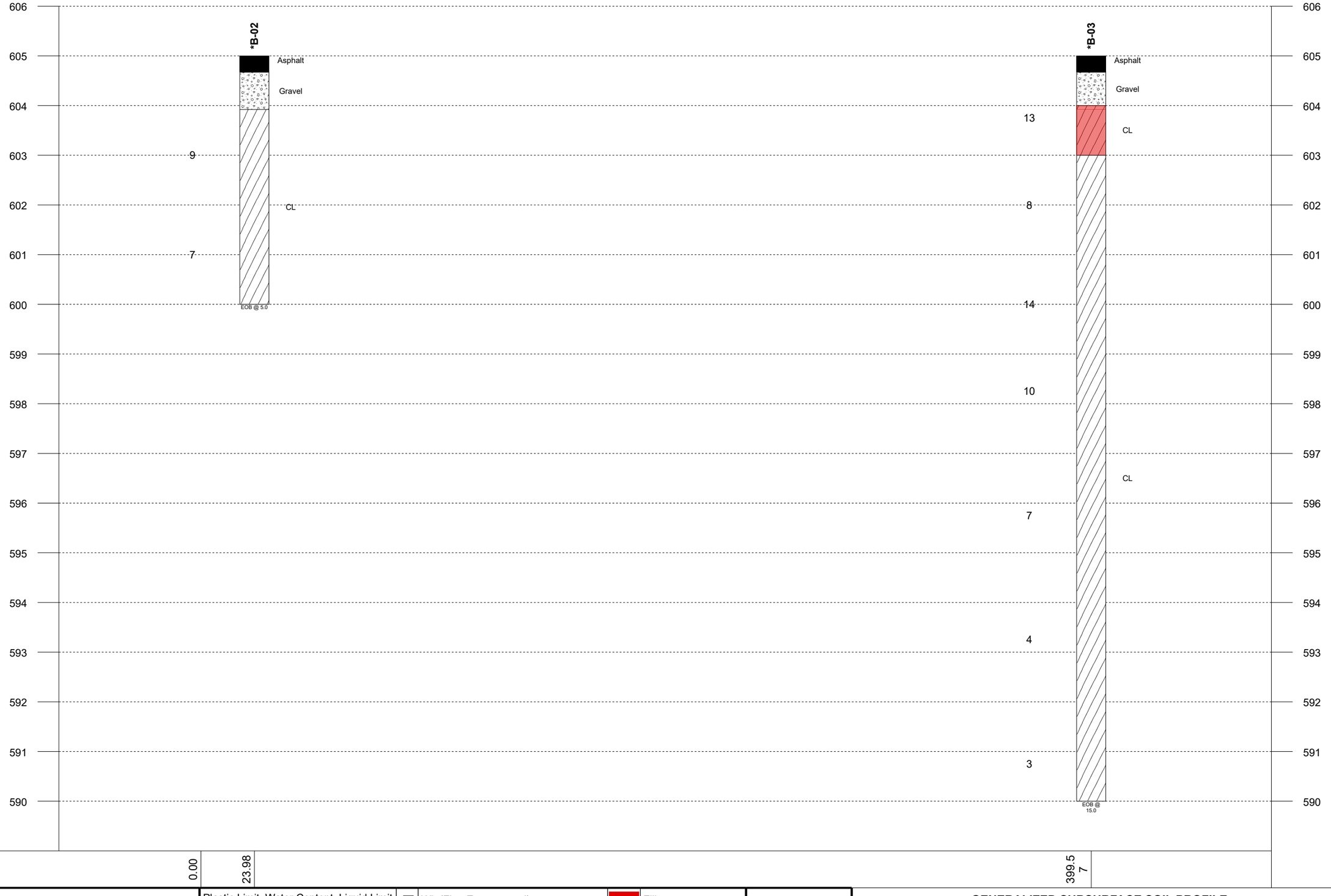


BORING LOCATION DIAGRAM

2024 Soil Boring

Brown County Fairground, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	1" = 250'
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024



Legend Key

- Asphalt
- Gravel
- LEAN CLAY

589.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△

[FINES CONTENT %]

BOTTOM OF CASING

LOSS OF CIRCULATION

CALIBRATED PENETROMETER

WL (First Encountered)

WL (Completion)

WL (Estimated Seasonal High Water)

WL (Stabilized)

Fill

Possible Fill

Probable Fill

Rock

GENERALIZED SUBSURFACE SOIL PROFILE

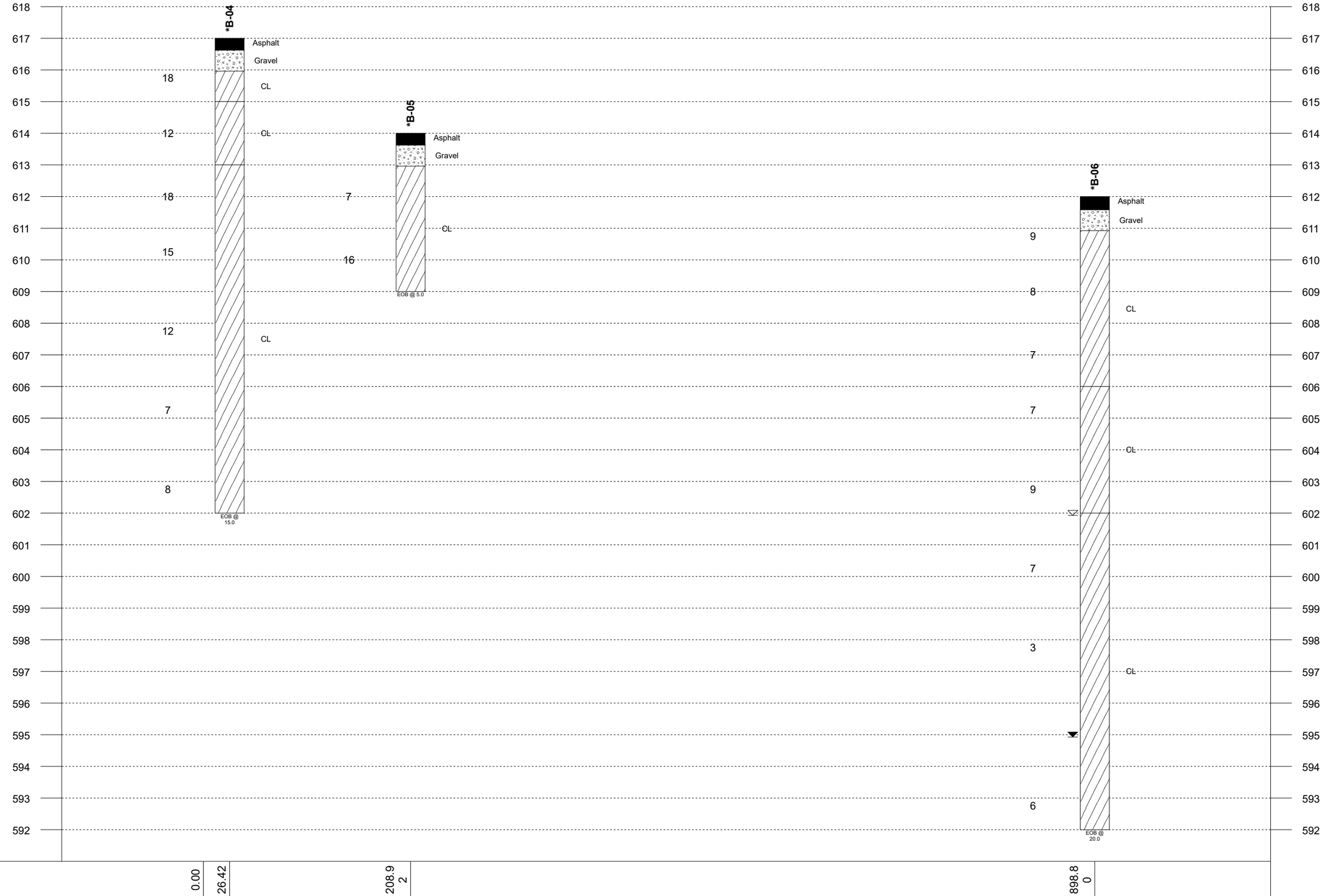
Cross Section A-A'

2024 Soil Boring

City of De Pere

Oakdale Avenue and Randall Avenue, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



Legend Key

- Asphalt
- Gravel
- LEAN CLAY

591.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit X—● Water Content ●—△ Liquid Limit			
[FINES CONTENT %]			
BOTTOM OF CASING	WL (First Encountered)	Fill	
LOSS OF CIRCULATION	WL (Completion)	Possible Fill	
CALIBRATED PENETROMETER	WL (Estimated Seasonal High Water)	Probable Fill	
	WL (Stabilized)	Rock	

GENERALIZED SUBSURFACE SOIL PROFILE

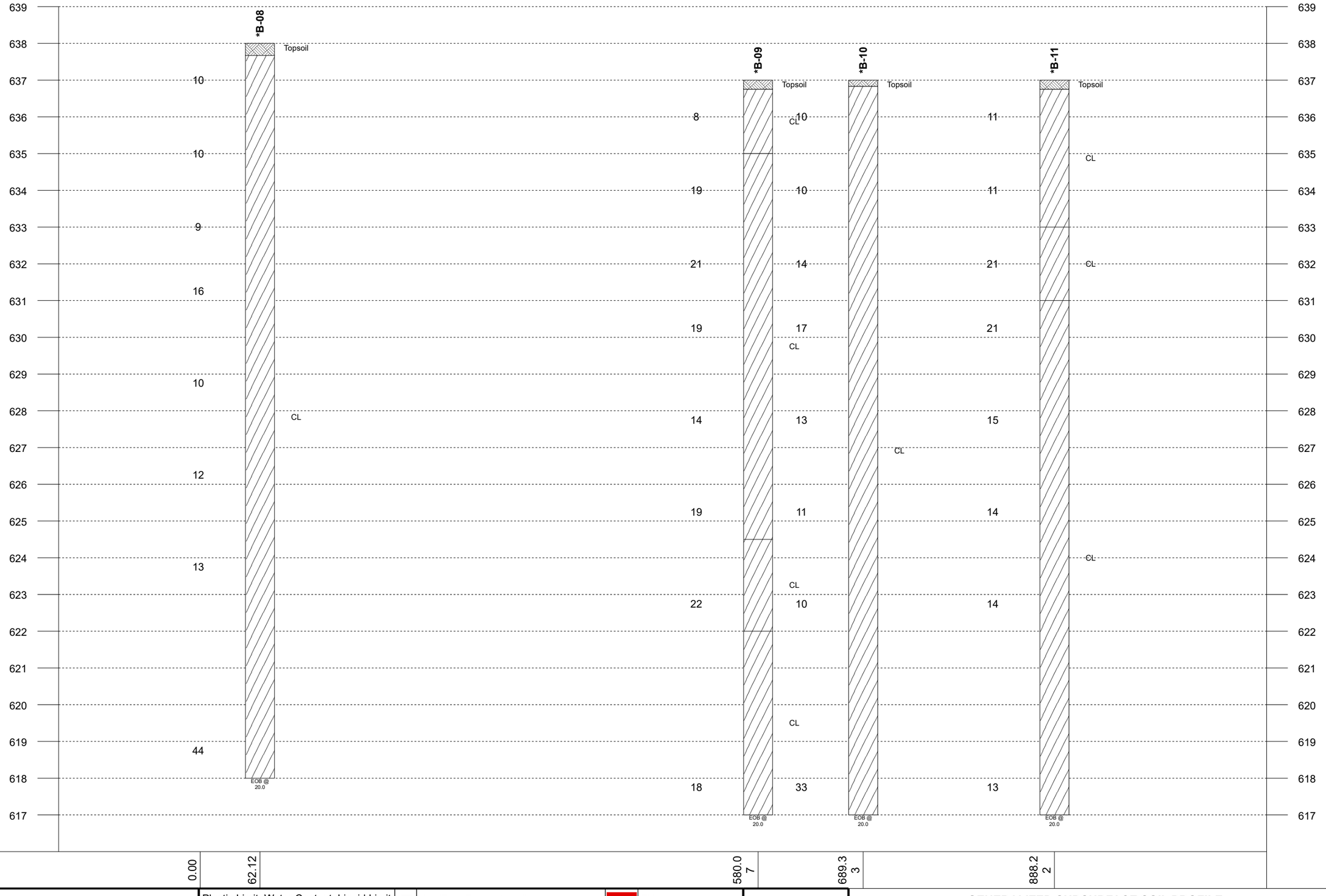
Cross Section B-B'

2024 Soil Boring

City of De Pere

Merrill Street, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



Legend Key

- Topsoil
- LEAN CLAY

616.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X—●—△	
[FINES CONTENT %]	
BOTTOM OF CASING	
100% LOSS OF CIRCULATION	
CALIBRATED PENETROMETER	
WL (First Encountered)	Fill
WL (Completion)	Possible Fill
WL (Estimated Seasonal High Water)	Probable Fill
WL (Stabilized)	Rock

GENERALIZED SUBSURFACE SOIL PROFILE

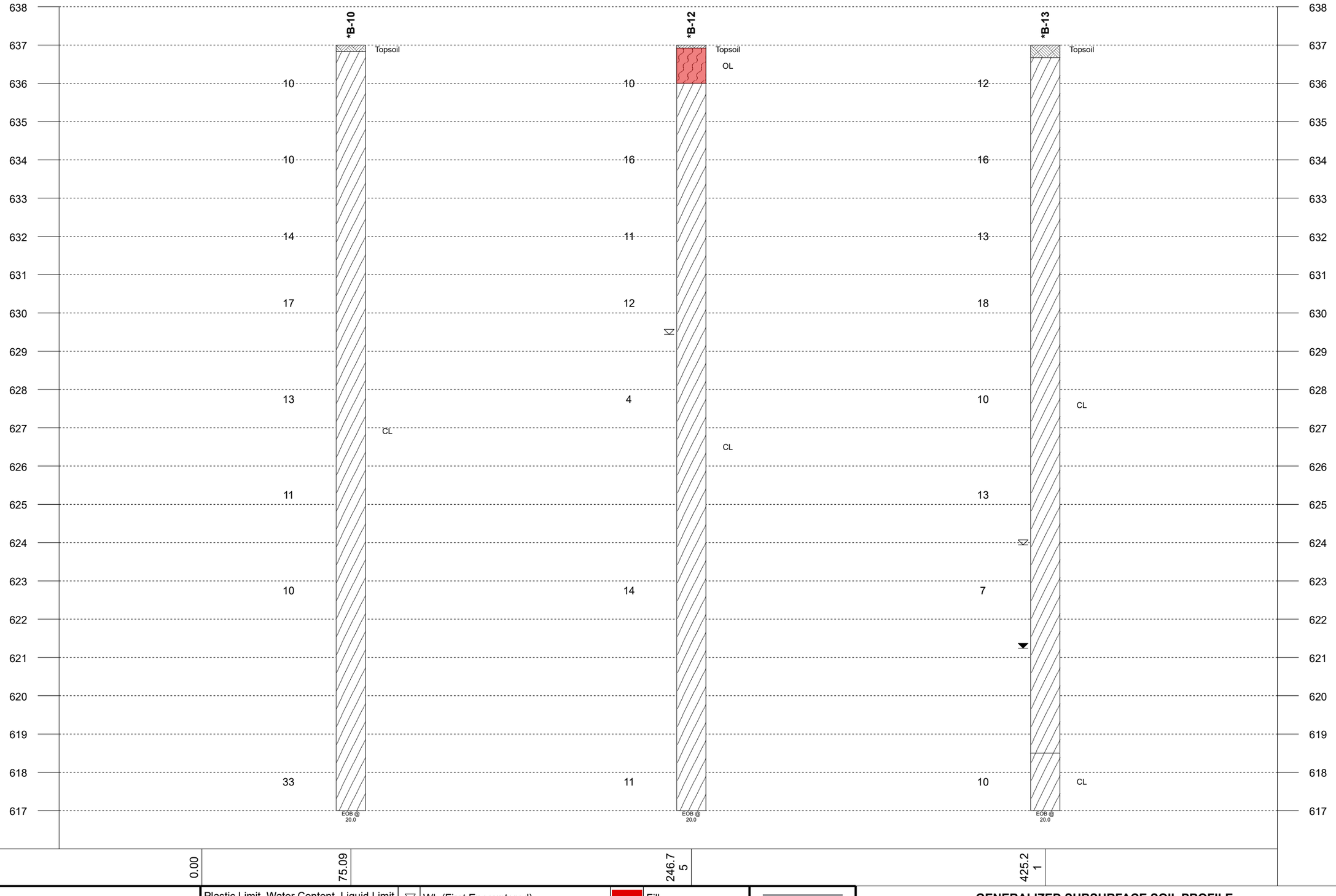
Cross Section C-C'

2024 Soil Boring

City of De Pere

South of American Boulevard, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



Legend Key

- Topsoil
- ORGANIC LEAN CLAY
- LEAN CLAY

616.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X—●—△	WL (First Encountered)	Fill
[FINES CONTENT %]	WL (Completion)	Possible Fill
BOTTOM OF CASING	WL (Estimated Seasonal High Water)	Probable Fill
LOSS OF CIRCULATION	WL (Stabilized)	Rock
CALIBRATED PENETROMETER		

GENERALIZED SUBSURFACE SOIL PROFILE

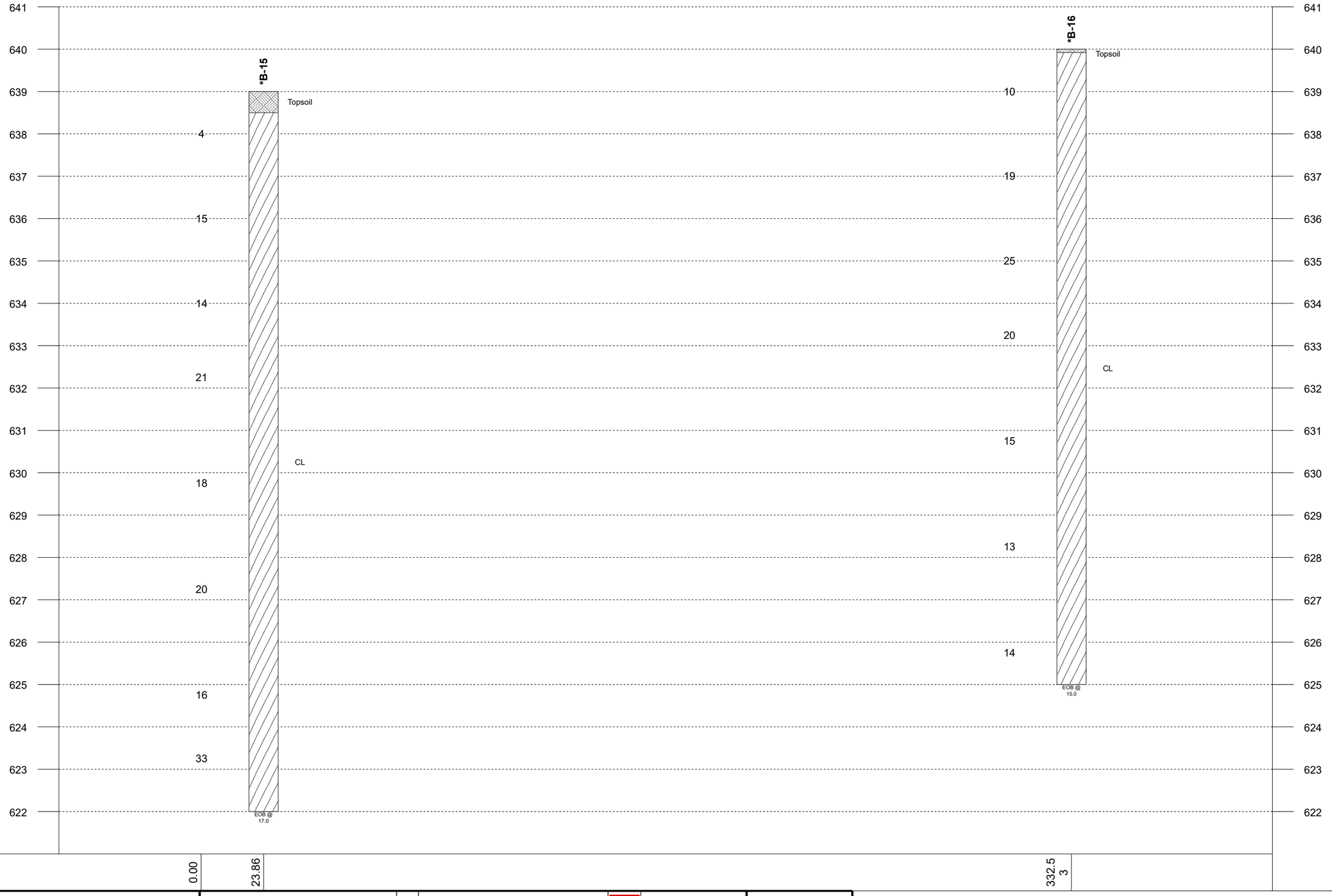
Cross Section D-D'

2024 Soil Boring

City of De Pere

South of American Boulevard, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



Legend Key

- Topsoil
- LEAN CLAY

621.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X——●——△	
[FINES CONTENT %]	
BOTTOM OF CASING	
LOSS OF CIRCULATION	
CALIBRATED PENETROMETER	

WL (First Encountered)	Fill
WL (Completion)	Possible Fill
WL (Estimated Seasonal High Water)	Probable Fill
WL (Stabilized)	Rock

GENERALIZED SUBSURFACE SOIL PROFILE

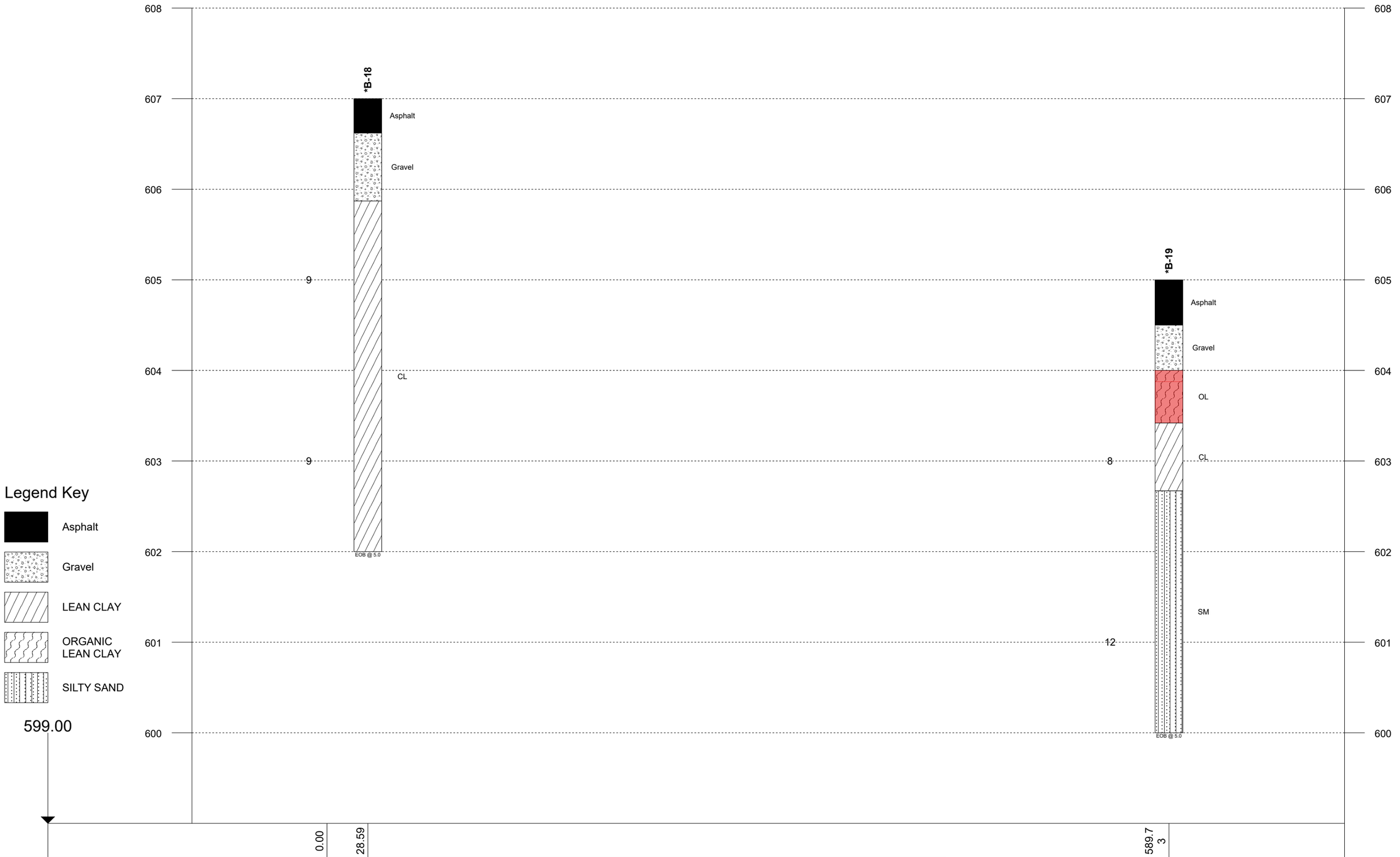
Cross Section E-E'

2024 Soil Boring

City of De Pere

South of American Boulevard, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X—●—△			
[FINES CONTENT %]	WL (First Encountered)	Fill	
BOTTOM OF CASING	WL (Completion)	Possible Fill	
LOSS OF CIRCULATION	WL (Estimated Seasonal High Water)	Probable Fill	
CALIBRATED PENETROMETER	WL (Stabilized)	Rock	

GENERALIZED SUBSURFACE SOIL PROFILE

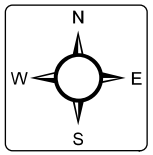
Cross Section F-F'

2024 Soil Boring

City of De Pere

Brown County Fairground, De Pere, Wisconsin, 54115

Project No: 59:4272 Date: 12/26/2024



SOIL SURVEY MAP

2024 Soil Boring

Fox River State Trail, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

SOIL SURVEY MAP

2024 Soil Boring

Oakdale Avenue and Randall Avenue, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

SOIL SURVEY MAP

2024 Soil Boring

Merrill Street, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

SOIL SURVEY MAP

2024 Soil Boring

Pleasant Place, De Pere, Wisconsin
City of De Pere

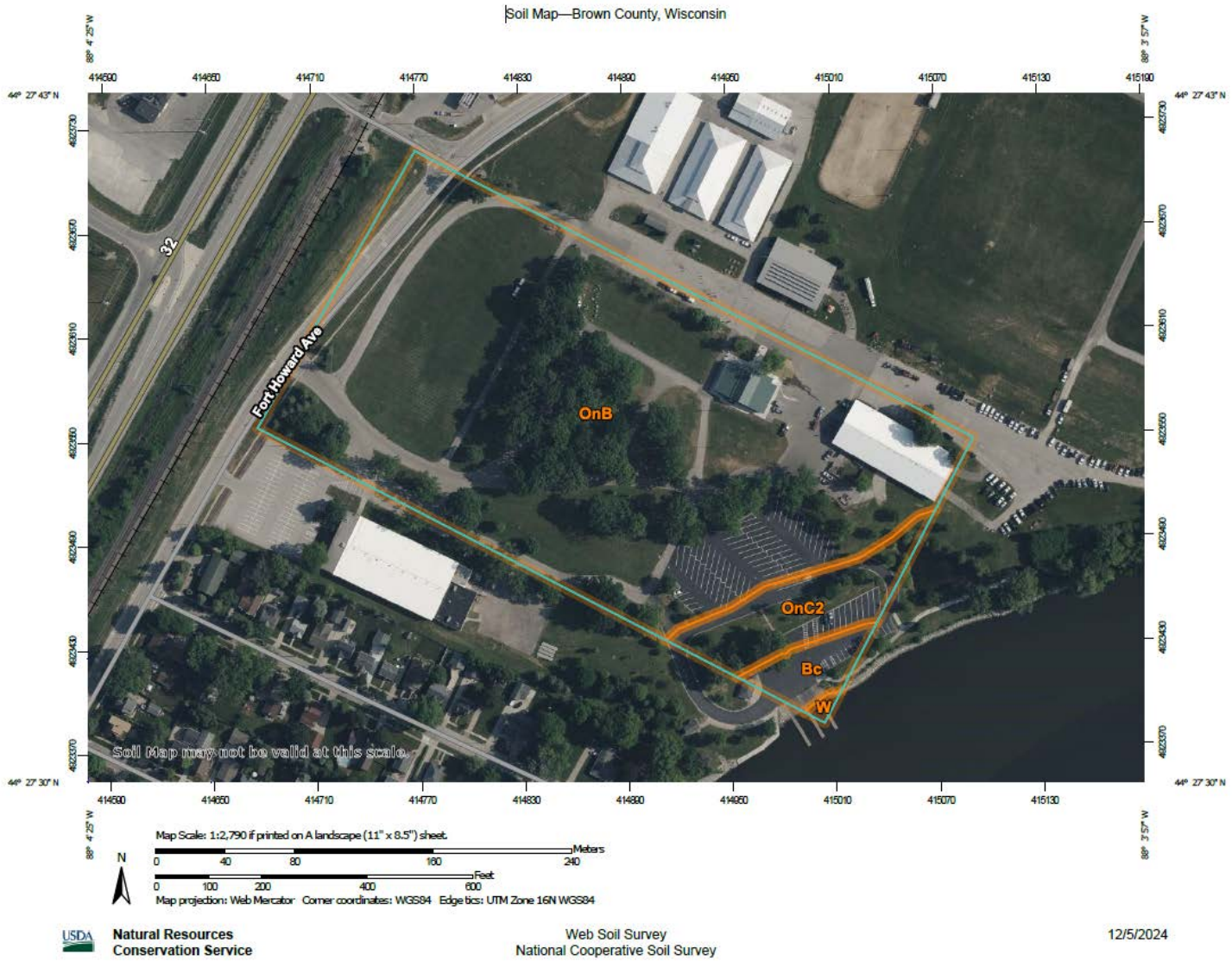
ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

SOIL SURVEY MAP

2024 Soil Boring

South of American Boulevard, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024



SOIL SURVEY MAP

2024 Soil Boring

Brown County Fairground, De Pere, Wisconsin
City of De Pere

ENGINEER	BNZ
SCALE	
PROJECT NO.	59:4272
SHEET	
DATE	12/26/2024

Appendix B – Field Operations

Subsurface Exploration Procedures: Standard Penetration Testing (SPT)
Reference Notes for Boring Logs
AASHTO Soil Classification System
Boring Logs

SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth
- Recording the number of hammer blows required to drive split-spoon a distance of 12 inches (in 3 or 4 Increments of 6 inches each)

- Auger is advanced* and an additional SPT is performed
- One SPT test is typically performed for every two to five feet

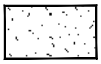
- Obtain 1 3/8-inch diameter soil sample

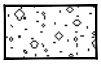
**Drilling Methods May Vary—* The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

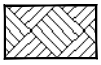
REFERENCE NOTES FOR BORING LOGS

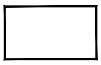
MATERIAL[1,2]

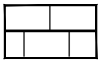

ASPHALT


CONCRETE


GRAVEL


TOPSOIL

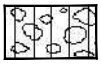

VOID


BRICK

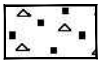

AGGREGATE BASE COURSE

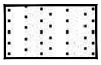

GW **WELL-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

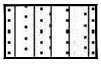

GP **POORLY-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

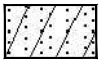

GM **SILTY GRAVEL**
gravel-sand-silt mixtures

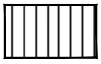

GC **CLAYEY GRAVEL**
gravel-sand-clay mixtures

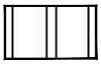

SW **WELL-GRADED SAND**
gravelly sand, little or no fines


SP **POORLY-GRADED SAND**
gravelly sand, little or no fines


SM **SILTY SAND**
sand-silt mixtures

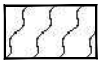

SC **CLAYEY SAND**
sand-clay mixtures

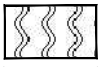

ML **SILT**
non-plastic to medium plasticity

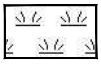

MH **ELASTIC SILT**
high plasticity


CL **LEAN CLAY**
low to medium plasticity


CH **FAT CLAY**
high plasticity


OL **ORGANIC SILT or CLAY**
non-plastic to low plasticity


OH **ORGANIC SILT or CLAY**
high plasticity


PT **PEAT**
highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]


WL (First Encountered)


WL (Completion)


WL (Seasonal High Water)


WL (Stabilized)

FILL AND ROCK

FILL | POSSIBLE FILL | PROBABLE FILL | ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) SOIL CLASSIFICATION SYSTEM – AASHTO M145

The AASHTO system of soil classification is based upon the observed field performance of subgrade soils under highway pavements and is widely used by highway engineers. According to this system, soils having approximately the same general load-carrying abilities are grouped together to form seven basic groups which are designated as A-1, A-2, A-3, A-4, A-5, A-6, and A-7. In general, A-1 soils would be the best soils for a highway subgrade and then each succeeding group being progressively poorer with A-7 soils being the poorest subgrade. The one exception is the A-3 group which is a better subgrade than the A-2 group. The classification system is shown in the table below:

AASHTO Soil Classification System

General Classification	Granular Materials (35% or less passing No. 200 Sieve)							Silt-Clay Materials (More than 35% passing No. 200 sieve)			
Group Classification	A-1		A-3	A-2				A-4	A-5	A-6	A-7
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6
Sieve Analysis, Percent Passing											
No. 10	50 max.	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
No. 40	30 max.	50 max.	51 min.	-----	-----	-----	-----	-----	-----	-----	-----
No. 200	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.	36 min.	36 min.	36 min.	36 min.
Characteristics of Fraction Passing No. 40											
Liquid Limit	-----		-----	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.
Plasticity Index	6 max.		N.P.	10 max.	10 max.	11 min.	11 min.	10 max.	10 max.	11 min.	11 min.[1][2]
Usual Types of Significant Constituent Materials	Stone Fragments Gravel and Sand		Fine Sand	Silty or Clayey Gravel and Sand				Silty Soils		Clayey Soils	
General Rating as Subgrade	Excellent to Good							Fair to Poor			

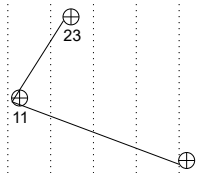
Notes: [1] – Plasticity Index of A-7-5 subgroup is equal to or less than Liquid Limit minus 30.
[2] – Plasticity Index of A-7-6 subgroup is greater than Liquid Limit minus 30.

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-01**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
Fox River State Trail, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.456770	**-88.595000**		**586.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
0	S-1	SS	24	17	Topsoil Thickness[3"] Asphalt Thickness[1.5"] Gravel Thickness[12"]		586	13-14-9-7 (23)
	S-2	SS	24	10	(SC) {A-2-6} Lacustrine, CLAYEY SAND, WITH GRAVEL, dark yellowish brown to dark grayish brown, moist, medium dense			6-6-5-7 (11)
	S-3	SS	13	11	(CL) {A-6} Glacial till, LEAN CLAY, reddish brown, moist, stiff			4-6-50/1" (56/7")
5					(CL) {A-6} Glacial till, LEAN CLAY, reddish brown, moist, very hard		581	
					AUGER REFUSAL AT 5.1 FT			
10							576	
15							571	
20							566	
25							561	
30							556	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50 / 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**None**	BORING STARTED:	**Dec 17 2024**	CAVE IN DEPTH:
WL (Completion)	**None**	BORING COMPLETED:	**Dec 17 2024**	HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

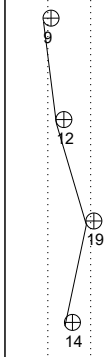
GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-01A**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
Fox River State Trail, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.456767	**-88.595300**		**586.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Offset 3.0 FT southwest of B-01 due to unknown obstruction. Blind drilled from 0.0 FT to 6.0 FT.			
5	S-1	SS	18	15	(CL) {A-6} Glacial till, LEAN CLAY, reddish brown, moist, stiff to very stiff		581	5-4-5 (9)
10	S-2	SS	18	18			576	3-5-7 (12)
	S-3	SS	18	1				4-8-11 (19)
15	S-4	SS	18	4			571	4-6-8 (14)
					END OF BORING AT 15.0 FT			
20							566	
25							561	
30							556	

STANDARD PENETRATION BLOWS/FT
10 20 30 40 50
20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT
10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 17 2024**	CAVE IN DEPTH:	
WL (Completion) **None**	BORING COMPLETED: **Dec 17 2024**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

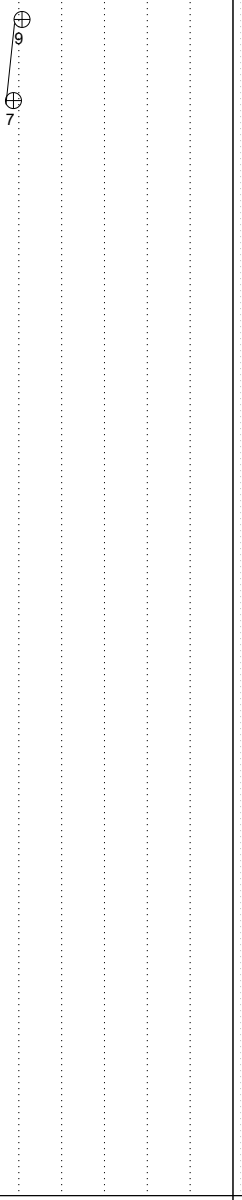
CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-02**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
Oakdale Avenue, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.457590	**-88.054800**		**605.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4"]			
					Gravel Thickness[9"]			
	S-1	SS	24	9	(CL) {A-6} Lacustrine, LEAN CLAY, yellowish red to reddish brown, moist, stiff to firm			5-4-5-5 (9)
	S-2	SS	24	24				3-3-4-5 (7)
5					**END OF BORING AT 5.0 FT**		600	
10							595	
15							590	
20							585	
25							580	
30							575	

STANDARD PENETRATION BLOWS/FT
10 20 30 40 50
20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT
10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50



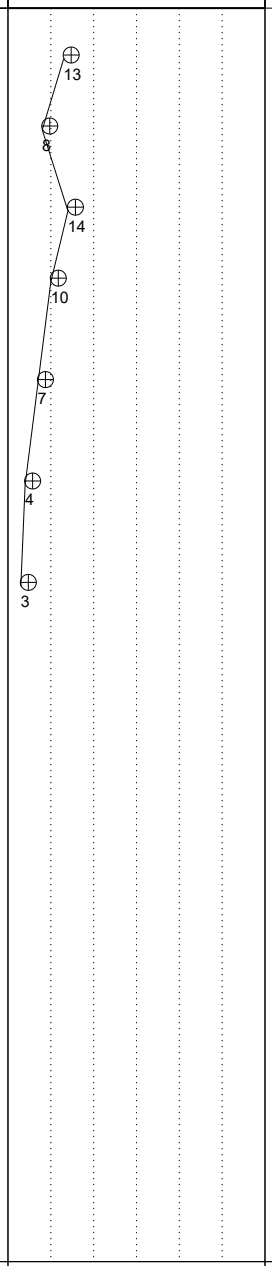
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

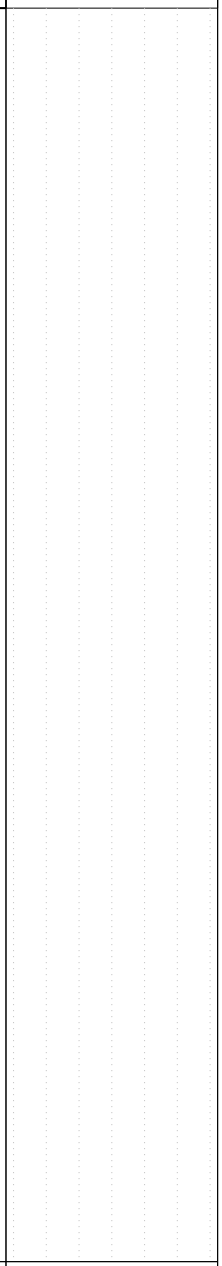
WL (First Encountered) **None**	BORING STARTED: **Dec 13 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 13 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-03**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **Randall Avenue, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.456850**	LONGITUDE: **-88.055800**	STATION:	SURFACE ELEVATION: **605.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4"]			
	S-1	SS	18	11	Gravel Thickness[8"]			22-6-7 (13)
	S-2	SS	24	14	(CL) {A-6} FILL, SANDY CLAY, WITH GRAVEL, dark reddish brown, moist, stiff			4-3-5-4 (8)
5	S-3	SS	24	24	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, stiff to soft		600	5-6-8-8 (14)
	S-4	SS	18	18				5-4-6 (10)
	S-5	SS	18	18				2-3-4 (7)
10	S-6	SS	18	18			595	2-2-2 (4)
	S-7	SS	18	18				2-1-2 (3)
15					**END OF BORING AT 15.0 FT**		590	
20							585	
25							580	
30							575	





THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 13 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 13 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-04**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

SITE LOCATION: **Merrill Street, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

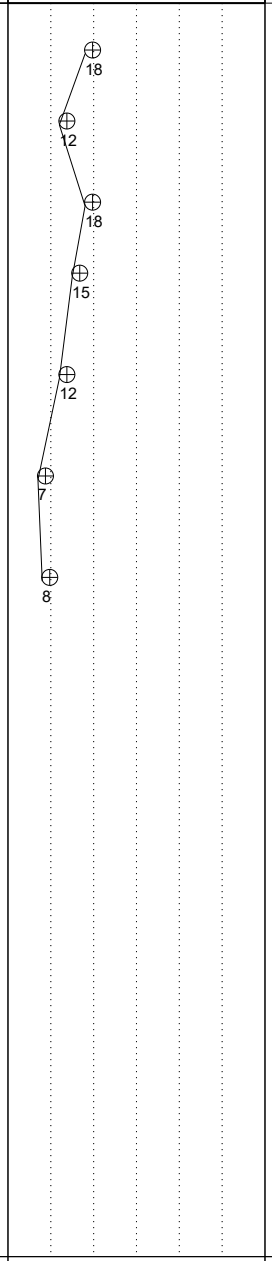
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.443430	**-88.054900**		**617.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4.5"]			
	S-1	SS	18	10	Gravel Thickness[8"]			21-9-9 (18)
	S-2	SS	24	12	(CL) {A-6} Lacustrine, LEAN CLAY, brown to reddish brown, moist, very stiff			6-5-7-7 (12)
5	S-3	SS	24	20	(CL) {A-6} Lacustrine, LEAN CLAY, trace sand seams about 0.5 inches thick, reddish brown, moist, stiff		612	6-8-10-11 (18)
	S-4	SS	18	16	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, very stiff to firm			4-6-9 (15)
	S-5	SS	18	18				4-6-6 (12)
10	S-6	SS	18	18			607	3-3-4 (7)
	S-7	SS	18	10				3-3-5 (8)
15					**END OF BORING AT 15.0 FT**		602	
20							597	
25							592	
30							587	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50 / 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**None**	BORING STARTED: **Dec 16 2024**		CAVE IN DEPTH:
WL (Completion)	**None**	BORING COMPLETED: **Dec 16 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

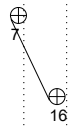
GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-05**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
Merrill Street, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.443690	**-88.055500**		**614.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4.5"]			
					Gravel Thickness[8"]			
	S-1	SS	24	15	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, firm to very stiff			4-4-3-7 (7)
	S-2	SS	24	18				6-7-9-10 (16)
5					**END OF BORING AT 5.0 FT**		609	
10							604	
15							599	
20							594	
25							589	
30							584	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT: 10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF: 1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %: 10 20 30 40 50



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 16 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 16 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-06**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **Merrill Street, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.444480**	LONGITUDE: **-88.057900**	STATION:	SURFACE ELEVATION: **612.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[5"]		
	S-1	SS	18	10	Gravel Thickness[8"]		13-4-5 (9)
	S-2	SS	24	12	(CL) {A-6} Lacustrine, LEAN CLAY, trace sand seams, reddish brown, moist, stiff to firm		4-3-5-5 (8)
5	S-3	SS	24	11		607	2-3-4-3 (7)
	S-4	SS	18	18	(CL) {A-6} Lacustrine, LEAN CLAY, pale brown to brown, moist, firm to stiff		3-3-4 (7)
	S-5	SS	18	18			4-5-4 (9)
10						602	
	S-6	SS	18	18	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, wet, soft to firm		5-5-2 (7)
	S-7	SS	18	18			1-1-2 (3)
15						597	
	S-8	SS	18	18			1-3-3 (6)
20					**END OF BORING AT 20.0 FT**	592	
25						587	
30						582	

WATER LEVELS

STANDARD PENETRATION BLOWS/FT
10 20 30 40 50
20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT
10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

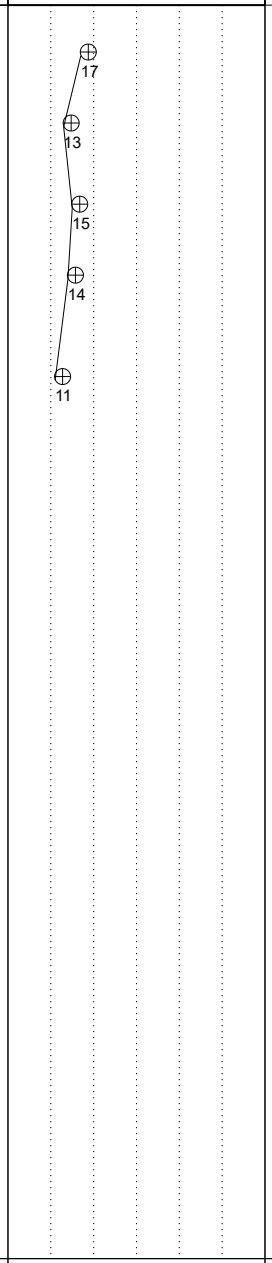
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

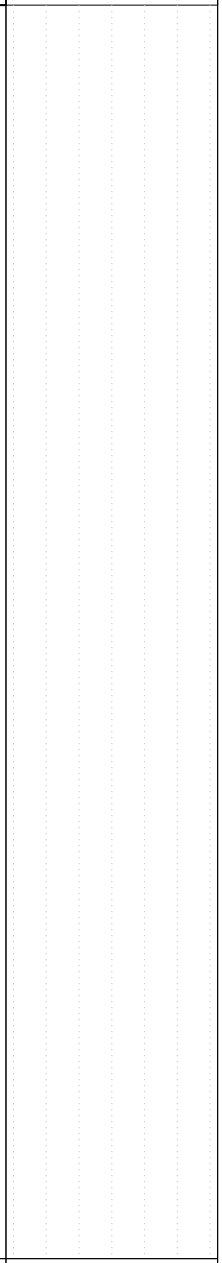
WL (First Encountered)	**10.00**	BORING STARTED: **Dec 16 2024**		CAVE IN DEPTH:
WL (Completion)	**17.00**	BORING COMPLETED: **Dec 16 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-07**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **Pleasant Place, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.440800**	LONGITUDE: **-88.068400**	STATION:	SURFACE ELEVATION: **607.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4"]			
	S-1	SS	18	9	Gravel Thickness[12"]			56-13-4 (17)
	S-2	SS	24	7	(SC) {A-2-6} Lacustrine, CLAYEY SAND, WITH GRAVEL, brown, moist, medium dense			6-6-7-8 (13)
5	S-3	SS	24	24	(CL/ML) {A-6} Lacustrine, SILTY CLAY, reddish brown, moist, stiff		602	5-7-8-9 (15)
	S-4	SS	18	18				4-6-8 (14)
	S-5	SS	18	18				4-5-6 (11)
10					**END OF BORING AT 10.0 FT**		597	
15							592	
20							587	
25							582	
30							577	





THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**None**	BORING STARTED: **Dec 13 2024**		CAVE IN DEPTH:
WL (Completion)	**None**	BORING COMPLETED: **Dec 13 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-08**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:	BOTTOM OF CASING
44.397890	**-88.128800**		**638.0**	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	7	Topsoil Thickness[4"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, stiff to hard			2-5-5-6 (10)
	S-2	SS	24	16				3-5-5-6 (10)
5	S-3	SS	24	10			633	4-4-5-6 (9)
	S-4	SS	18	18				4-6-10 (16)
	S-5	SS	18	15				3-4-6 (10)
10	S-6	SS	18	18			628	3-4-8 (12)
	S-7	SS	18	18				2-5-8 (13)
15							623	
	S-8	SS	18	13				8-18-26 (44)
20					**END OF BORING AT 20.0 FT**		618	
25							613	
30							608	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50 / 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

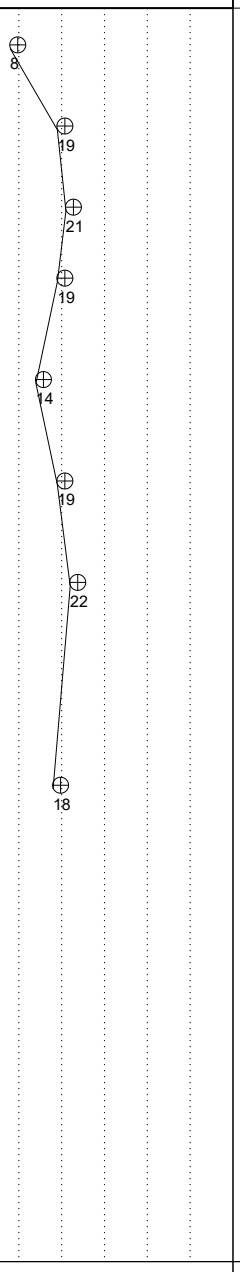
WL (First Encountered) **None**	BORING STARTED: **Dec 19 2024**	CAVE IN DEPTH:	
WL (Completion) **None**	BORING COMPLETED: **Dec 19 2024**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-09**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.397500**	LONGITUDE: **-88.126800**	STATION:	SURFACE ELEVATION: **637.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	10	Topsoil Thickness[3"] (CL) {A-6} Lacustrine, LEAN CLAY, brown, moist, firm			2-4-4-4 (8)
	S-2	SS	24	12	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, very stiff to stiff			6-9-10-11 (19)
5	S-3	SS	24	18			632	8-10-11-15 (21)
	S-4	SS	18	15				6-10-9 (19)
	S-5	SS	18	16				4-6-8 (14)
10	S-6	SS	18	12			627	5-9-10 (19)
	S-7	SS	18	18	(CL) {A-6} Lacustrine, LEAN CLAY, trace sand seams, reddish brown, moist, very stiff			6-8-14 (22)
15					(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, very stiff		622	
	S-8	SS	18	15				6-10-8 (18)
20					**END OF BORING AT 20.0 FT**		617	
25							612	
30							607	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT: 10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT
LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF: 1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %: 10 20 30 40 50



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 18 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 18 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-10**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

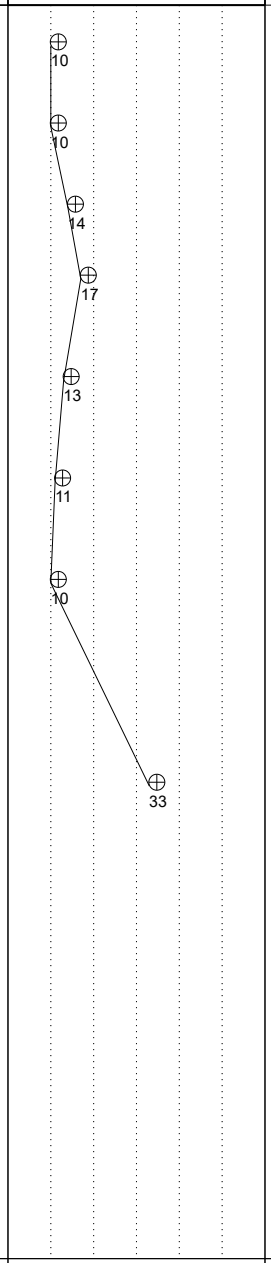
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:	BOTTOM OF CASING
44.396940	**-88.126800**		**637.0**	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	11	Topsoil Thickness[2"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, stiff to hard			3-5-5-7 (10)
	S-2	SS	24	16				3-5-5-6 (10)
5	S-3	SS	24	17			632	5-7-7-9 (14)
	S-4	SS	18	14				6-8-9 (17)
	S-5	SS	18	13				3-6-7 (13)
10	S-6	SS	18	18			627	4-5-6 (11)
	S-7	SS	18	18				3-4-6 (10)
15	S-8	SS	18	18			622	8-15-18 (33)
20					**END OF BORING AT 20.0 FT**		617	
25							612	
30							607	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50 / 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT



LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 18 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 18 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-11**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
South of American Boulevard, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.396600	**-88.126200**		**637.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	14	Topsoil Thickness[3"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, stiff			2-5-6-6 (11)
	S-2	SS	24	18				3-5-6-7 (11)
5	S-3	SS	24	7	(CL) {A-6} Glacial till, LEAN CLAY, WITH GRAVEL, reddish brown to brown, moist, very stiff		632	5-9-12-14 (21)
	S-4	SS	18	16	(CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, very stiff to stiff			6-8-13 (21)
	S-5	SS	18	18				5-7-8 (15)
10							627	
	S-6	SS	18	15				4-6-8 (14)
	S-7	SS	18	18				4-6-8 (14)
15							622	
	S-8	SS	18	18				4-6-7 (13)
20					**END OF BORING AT 20.0 FT**		617	
25							612	
30							607	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT: 10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF: 1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %: 10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 18 2024**	CAVE IN DEPTH:	
WL (Completion) **None**	BORING COMPLETED: **Dec 18 2024**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-12**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.396470**	LONGITUDE: **-88.126900**	STATION:	SURFACE ELEVATION: **637.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	4	Topsoil Thickness[1"] (OL) {A-8} FILL, ORGANIC LEAN CLAY, wood chunks, dark brown, moist, stiff			3-4-6-6 (10)
	S-2	SS	24	6	(CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist to wet, very stiff to soft			4-7-9-9 (16)
5	S-3	SS	24	20			632	4-5-6-7 (11)
	S-4	SS	18	16		▽		5-6-6 (12)
	S-5	SS	18	18				2-2-2 (4)
10	S-6	ST	24	22			627	
	S-7	SS	18	16				3-5-9 (14)
15							622	
	S-8	SS	18	14				2-5-6 (11)
20					**END OF BORING AT 20.0 FT**		617	
25							612	
30							607	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT: 10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF: 1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %: 10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **7.50**	BORING STARTED: **Dec 19 2024**	CAVE IN DEPTH:	
▼ WL (Completion) **None**	BORING COMPLETED: **Dec 19 2024**	HAMMER TYPE: **Auto**	
▽ WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
▽ WL (Stabilized)			

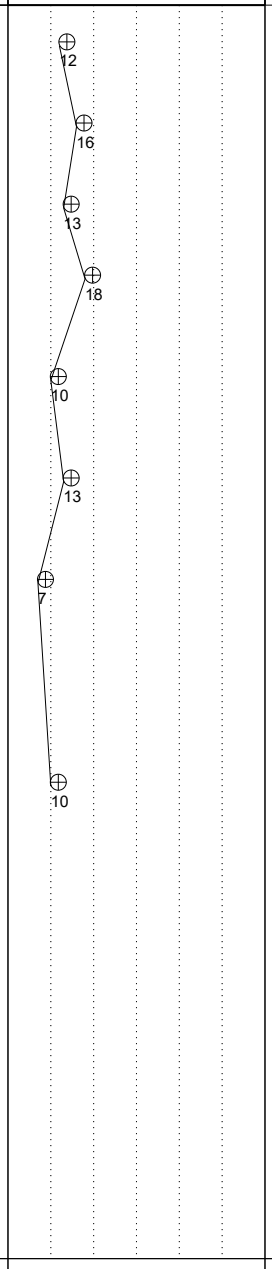
GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-13**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.395980**	LONGITUDE: **-88.126800**	STATION:	SURFACE ELEVATION: **637.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
0	S-1	SS	24	15	Topsoil Thickness[4"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist to wet, very stiff to firm	637	3-5-7-8 (12)
	S-2	SS	24	13			4-7-9-12 (16)
5	S-3	SS	24	13		632	4-6-7-9 (13)
	S-4	SS	18	18			5-8-10 (18)
	S-5	SS	18	12			3-4-6 (10)
10						627	
	S-6	SS	18	17			5-5-8 (13)
	S-7	SS	18	0			2-3-4 (7)
15						622	
	S-8	SS	18	18			3-4-6 (10)
20					**END OF BORING AT 20.0 FT**	617	
25						612	
30						607	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50; 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**13.00**	BORING STARTED: **Dec 18 2024**		CAVE IN DEPTH:
WL (Completion)	**15.70**	BORING COMPLETED: **Dec 18 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-14**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.394400**	LONGITUDE: **-88.128100**	STATION:	SURFACE ELEVATION: **638.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	12	Topsoil Thickness[3"] (CL) {A-6} Lacustrine, LEAN CLAY, reddish brown to brown, moist, firm to very stiff			2-3-5-7 (8)
	S-2	SS	24	15				5-7-9-11 (16)
5	S-3	SS	24	17			633	4-7-8-9 (15)
	S-4	SS	18	14				6-9-12 (21)
	S-5	SS	18	14				2-4-5 (9)
10							628	
	S-6	SS	18	18				3-6-7 (13)
	S-7	SS	18	18				3-4-6 (10)
15							623	
	S-8	SS	18	18				4-6-7 (13)
20							618	
	S-9	SS	18	13				5-6-8 (14)
25	S-10	SS	24	18			613	4-8-7-10 (15)
					END OF BORING AT 27.0 FT			
30							608	

STANDARD PENETRATION BLOWS/FT (10 20 30 40 50; 20 40 60 80 100)
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT (10 20 30 40 50)
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF (1 2 3 4 5)
WATER CONTENT %
[FINES CONTENT] % (10 20 30 40 50)

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 18 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 18 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-15**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
South of American Boulevard, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.396090	**-88.123500**		**639.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	11	Topsoil Thickness[6"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, soft to hard			2-1-3-4 (4)
	S-2	SS	24	19				3-6-9-12 (15)
5	S-3	SS	24	16			634	4-7-7-7 (14)
	S-4	SS	18	18				6-10-11 (21)
	S-5	SS	18	18				5-7-11 (18)
10	S-6	SS	18	17			629	5-9-11 (20)
	S-7	SS	18	15				4-6-10 (16)
15	S-8	SS	18	18			624	8-14-19 (33)
					END OF BORING AT 17.0 FT			
20							619	
25							614	
30							609	

STANDARD PENETRATION BLOWS/FT
10 20 30 40 50
20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT
10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF
1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %
10 20 30 40 50

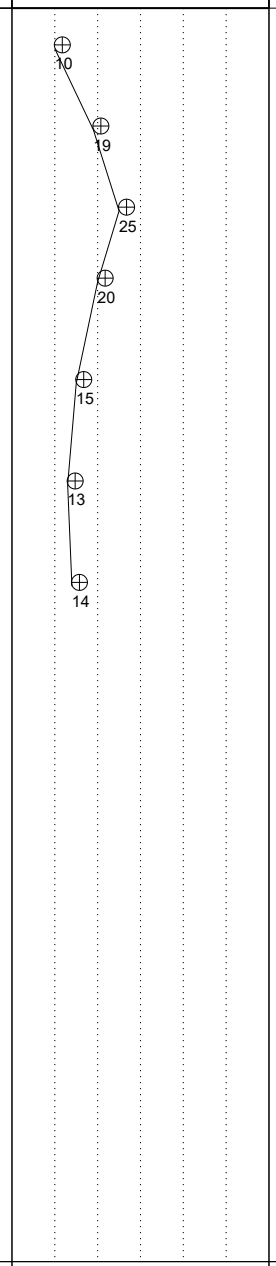
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

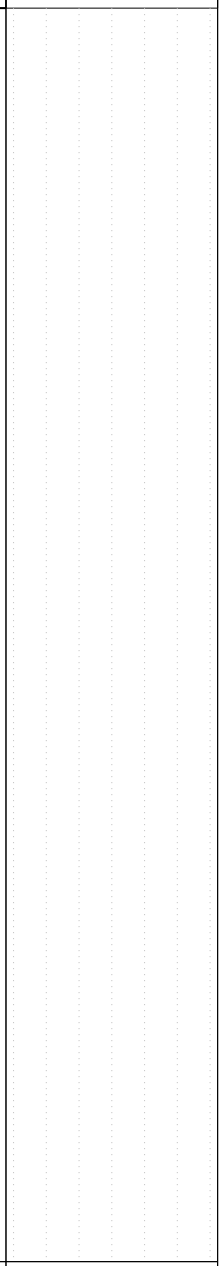
WL (First Encountered) **None**	BORING STARTED: **Dec 18 2024**	CAVE IN DEPTH:	
WL (Completion) **None**	BORING COMPLETED: **Dec 18 2024**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-16**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**			LOSS OF CIRCULATION
LATITUDE: **44.396540**	LONGITUDE: **-88.122500**	STATION:	SURFACE ELEVATION: **640.0**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	11	Topsoil Thickness[1"] (CL) {A-6} Glacial till, LEAN CLAY, reddish brown to brown, moist, stiff to very stiff			3-4-6-8 (10)
	S-2	SS	24	22				7-9-10-11 (19)
5	S-3	SS	24	14			635	8-11-14-17 (25)
	S-4	SS	18	18				11-8-12 (20)
	S-5	SS	18	16				5-7-8 (15)
10	S-6	SS	18	18			630	4-6-7 (13)
	S-7	SS	18	18				4-6-8 (14)
15					**END OF BORING AT 15.0 FT**		625	
20							620	
25							615	
30							610	





THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**None**	BORING STARTED: **Dec 17 2024**		CAVE IN DEPTH:
WL (Completion)	**None**	BORING COMPLETED: **Dec 17 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-17**	**1 of 1**

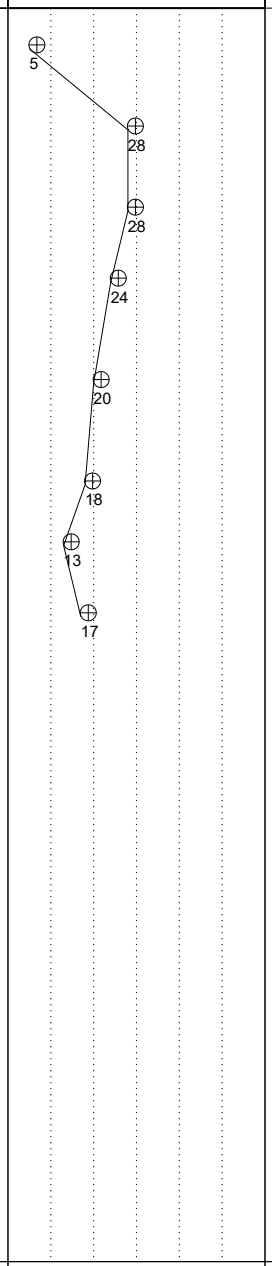
PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

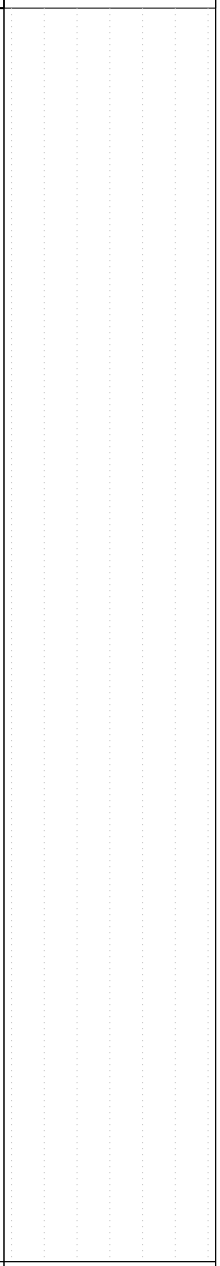
SITE LOCATION: **South of American Boulevard, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:	BOTTOM OF CASING
44.395900	**-88.122400**		**639.0**	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
	S-1	SS	24	15	Topsoil Thickness[2"] (CL) {A-6} Lacustrine, LEAN CLAY, reddish brown to brown, moist, firm to very stiff			2-3-2-5 (5)
	S-2	SS	24	18				7-11-17-21 (28)
5	S-3	SS	24	19			634	8-11-17-23 (28)
	S-4	SS	18	16				10-12-12 (24)
	S-5	SS	18	18				7-9-11 (20)
10							629	
	S-6	SS	18	15				6-8-10 (18)
	S-7	SS	18	18				4-6-7 (13)
15	S-8	SS	24	18			624	5-7-10-11 (17)
					END OF BORING AT 16.0 FT			
20							619	
25							614	
30							609	





THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 17 2024**		CAVE IN DEPTH:
WL (Completion) **None**	BORING COMPLETED: **Dec 17 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-70**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-18**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
2024 Soil Boring	**ECS59 - Crew 1**		
SITE LOCATION:			LOSS OF CIRCULATION
Brown County Fairground, De Pere, Wisconsin, 54115			
LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.460860	**-88.071700**		**607.0**

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[4.5"]			
					Gravel Thickness[9"]			
	S-1	SS	24	10	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown to brown, moist, stiff			6-4-5-5 (9)
	S-2	SS	24	19				3-3-6-9 (9)
5					**END OF BORING AT 5.0 FT**		602	
10							597	
15							592	
20							587	
25							582	
30							577	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
MC SAMPLER BLOWS/FT: 10 20 30 40 50
TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT
PLASTIC LIMIT
CALIBRATED PENETROMETER TSF: 1 2 3 4 5
WATER CONTENT %
[FINES CONTENT] %: 10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered) **None**	BORING STARTED: **Dec 16 2024**	CAVE IN DEPTH:	
WL (Completion) **None**	BORING COMPLETED: **Dec 16 2024**	HAMMER TYPE: **Auto**	
WL (Seasonal High Water)	EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-19**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

SITE LOCATION: **Brown County Fairground, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:	BOTTOM OF CASING
44.460020	**-88.069900**		**605.0**	

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[6"]			
					Gravel Thickness[6"]			
	S-1	SS	24	18	(OL) {A-8} FILL, ORGANIC CLAY, dark brown, moist, firm			4-4-4-7 (8)
	S-2	SS	24	23	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, firm			6-6-6-6 (12)
5					(SM) {A-2-4} Lacustrine, SILTY SAND, yellowish brown, moist, medium dense		600	
					END OF BORING AT 5.0 FT			
10							595	
15							590	
20							585	
25							580	
30							575	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100

ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

MC SAMPLER BLOWS/FT: 10 20 30 40 50

TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT

PLASTIC LIMIT

CALIBRATED PENETROMETER TSF: 1 2 3 4 5

WATER CONTENT %

[FINES CONTENT] %: 10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered)	**None**	BORING STARTED: **Dec 13 2024**		CAVE IN DEPTH:
WL (Completion)	**None**	BORING COMPLETED: **Dec 13 2024**		HAMMER TYPE: **Auto**
WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
City of De Pere	**59:4272**	**B-20**	**1 of 1**

PROJECT NAME:	DRILLER/CONTRACTOR:
2024 Soil Boring	**ECS59 - Crew 1**

SITE LOCATION: **Brown County Fairground, De Pere, Wisconsin, 54115**

LOSS OF CIRCULATION

LATITUDE:	LONGITUDE:	STATION:	SURFACE ELEVATION:
44.459460	**-88.069900**		**603.0**

BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT-N value)*
					Asphalt Thickness[5"] Gravel Thickness[8"]			
	S-1	SS	24	4	(SM) {A-2-4} Lacustrine, SILTY SAND, yellowish brown, moist, loose			7-3-5-4 (8)
	S-2	SS	24	24	(CL) {A-6} Lacustrine, LEAN CLAY, reddish brown, moist, firm			3-4-4-7 (8)
5					**END OF BORING AT 5.0 FT**		598	
10							593	
15							588	
20							583	
25							578	
30							573	

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50 | 20 40 60 80 100

ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

MC SAMPLER BLOWS/FT: 10 20 30 40 50

TEXAS CONE PENETRATION BLOWS/FT

LIQUID LIMIT

PLASTIC LIMIT

CALIBRATED PENETROMETER TSF: 1 2 3 4 5

WATER CONTENT %

[FINES CONTENT] %: 10 20 30 40 50

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**None**	BORING STARTED: **Dec 13 2024**	CAVE IN DEPTH:	
▼ WL (Completion)	**None**	BORING COMPLETED: **Dec 13 2024**	HAMMER TYPE: **Auto**	
▼ WL (Seasonal High Water)		EQUIPMENT: **Diedrich D-50**	LOGGED BY: **BNZ**	DRILLING METHOD: **4-1/4" Solid stem auger**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

Appendix C – Supplemental Documents

Important Information About This Geotechnical Engineering Report

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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